PUBLIC

UNITED STATES OF AMERICA
BEFORE THE FEDERAL TRADE COMMISSION

In the Matter of **Docket No. 9302**

RAMBUS INC.,

a corporation.

INITIAL POST-TRIAL BRIEF OF RESPONDENT RAMBUS INC.

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I. INTRODUCTION AND SUMMARY OF ARGUMENT

When the Commission authorized the filing of the Complaint in this case, a federal jury in Virginia had just returned a fraud verdict against Rambus Inc. (ARambus@) based on the theory that Rambus should have disclosed certain patent applications, or intentions to file or amend patent applications, to JEDEC. A necessary prerequisite to the jury=s finding of fraud was that Rambus had a duty to disclose patent applications or intentions to file or amend patent applications to JEDEC. *Rambus Inc. v. Infineon Techs AG*, 318 F.3d 1081, 1096 (Fed. Cir. 2003) (hereinafter A*Infineon*@). Thus, the Commission and Complaint Counsel might have presumed, based on the jury=s verdict, that such a duty did in fact exist under JEDEC=s rules, practices and procedures. During the course of this proceeding, however, it has become apparent that no such duty existed. Neither the written rules and policies of JEDEC, nor its procedures or regular practices, were consistent with a finding that there existed a duty to disclose patent applications or intentions to file or amend patent applications. Indeed, there is compelling evidence that no such duty existed at any time during Rambus=s membership in JEDEC.

In January 2003, the Federal Circuit, after reviewing the record that had been before the *Infineon* jury, reversed the jury=s verdict, concluding as follows:

> AIn this case there is a staggering lack of defining details in the EIA/JEDEC patent policy. When direct competitors participate in an open standards committee, their work necessitates a written patent policy with clear guidance on the committee=s intellectual property position. A policy that does not define clearly what,

> when, how, and to whom the members must disclose does not provide a firm basis for the disclosure duty necessary for a fraud verdict. Without a clear policy, members form vaguely defined expectations as to what they believe the policy requires B whether the policy in fact so requires or not. JEDEC could have drafted a patent policy with a broader disclosure duty. It could have drafted a policy broad enough to capture a member=s failed attempts to mine a disclosed specification for broader undisclosed claims. It could have. It simply did not.@

Infineon, 318 F.3d at 1102 (footnote omitted).

Complaint Counsel have argued, and certainly will argue again, that the record evidence in this case is different than the record evidence in *Infineon*, so that a different result may be reached here. Complaint Counsel also may argue that the legal standard under which the evidence is to be judged is different here from the standard applicable in the Virginia trial.

Although Complaint Counsel would be correct in contending that there was additional evidence offered in this case regarding JEDEC=s supposed patent policy, what that additional evidence shows, even <u>more</u> clearly than the record evidence in the *Infineon* case, is that JEDEC did <u>not</u> require and its members did <u>not</u> expect disclosure of patent applications or of intentions to file or amend patent applications. The evidence in this case further makes plain that no two members of JEDEC B at least no two members who testified in this trial B had the same understanding of JEDEC=s patent policies or the disclosure expectations of JEDEC=s members.

However framed, Complaint Counsel=s theory of this case depends upon Rambus having had a duty to disclose patent applications to JEDEC. In the absence of such a duty B and the record evidence establishes beyond any question that there was no such duty B Complaint Counsel=s claims must fail. Further, because so many aspects of JEDEC=s patent policies are vague, uncertain and not clearly stated, and because so many are interpreted and understood differently by different JEDEC members, JEDEC=s patent policy lacks the certainty and clarity that are required in order for a breach of such a policy to provide the predicate for an antitrust claim.

There are numerous other reasons why this Court should find that Complaint Counsel have not met their burden of proof. As summarized below and as set forth in much greater detail in Rambus=s Proposed Findings of Fact and Conclusions of Law (hereinafter, ARambus=s Proposed Findings@ or ARPF@), JEDEC and its members were well aware of the extent of the inventions made by Drs. Farmwald and Horowitz and of the fact that Rambus would be seeking the broadest possible patent protection for those inventions. JEDEC and its members knew or should have known that Rambus would seek to obtain patent coverage over the four features at issue in this case, since it was well known that Rambus considered the use of these features in a DRAM to be part of the novel contributions made by Drs. Farmwald and Horowitz to the DRAM art. Put simply, JEDEC and its members were not Alulled.@

The evidence also establishes that, regardless which of Complaint Counsel’s many JEDEC disclosure theories are considered, Rambus did not at any pertinent time possess patents or patent applications that it would have been required to disclose. In other words, Rambus in fact complied with even the most tortured construction of JEDEC’s disclosure policy.

In sum, the record evidence establishes that JEDEC had no policy regarding the disclosure of patents and/or patent applications with which Rambus did not comply. It further establishes that Rambus acted in a manner fully consistent with the expectations of JEDEC and its members and fully consistent with any duty of good faith to which it might be held. The evidence also proves that JEDEC and its members were well aware that Rambus was seeking the broadest possible patent protection for its inventions and that it would be seeking protection for the four features at issue here, as well as for many other aspects of its inventions.

One might ask, then, if in fact JEDEC and its members were aware of the possibility that Rambus would obtain patent claims that would cover, among other inventions, the four features at issue here, why did JEDEC, at the behest of some of its members with the greatest knowledge and the most at stake, include these features in JEDEC’s standards? The evidence provides two answers to this question. The first is that JEDEC members believed that any Rambus patents that issued would be invalid or very narrow because of prior art, *e.g.*, that the Patent Office and/or the courts would recognize that Drs. Farmwald and Horowitz had not invented revolutionary technology or new ways to use established technologies and that Rambus=s technology was nothing more than a Acollection of prior art,@ as one longtime JEDEC representative put it in 1993. RPF 517; (Meyer, 12/14/00 Infineon Depo Tr., 300 (CX 1454)).[1]

The other answer to this question is that there was no other way to achieve the level of performance that was needed in order to solve the memory bottleneck problem. Manufacturers of DRAM, architects of computer systems and numerous users of DRAMs had no choice but to walk down the path blazed by Drs. Farmwald and

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[1] In this brief, Rambus attempts to place its Proposed Findings in context and to provide useful argument and discussion in support of those Findings. Rather than repeating at length the evidence and record citations set forth in the Findings, Rambus often will simply cite to the pertinent paragraphs of its Proposed Findings. To further aid the Court in connecting the arguments in this brief with Rambus=s Proposed Findings, Rambus will provide, at the beginning of most sections of this brief, a reference to the corresponding sections or paragraphs in its Proposed Findings.

Horowitz and use an ever-increasing number of the inventions they made. The four features at issue here were utilized by the DRAM industry because they had to be; without them DRAMs could not keep up with the ever-increasing speed and data demands of microprocessors.

Complaint Counsel also have failed to prove two other elements of their claims. First, Complaint Counsel undertook to prove that Rambus engaged in Aexclusionary conduct,@ which is defined by the case law (and the Federal Trade Commission) as conduct that makes no economic sense but for the elimination of competition and, therefore, has no legitimate business justification. However, it is uncontested that there are legitimate business reasons for technology-based companies like Rambus to maintain the confidentiality of information regarding their patent applications and pending patent claims. Rambus=s alleged refusal to disclose information about its intellectual property aspirations thus had a legitimate business purpose and cannot be the basis for a monopolization claim.

Second, Complaint Counsel are required to show economic injury or anticompetitive effects in order to prevail on their claims. Yet, the evidence in this case establishes there were no anticompetitive effects and in the future there will be no anticompetitive effects as the result of any conduct by Rambus. In all pertinent respects, the Abut for@ world postulated by Complaint Counsel is the same as the world in which we live today. For instance, Complaint Counsel undertook to prove, and were required to prove, that JEDEC had available to it acceptable noninfringing alternative technologies at the time that Rambus supposedly should have disclosed its patent interests. However, Complaint Counsel made no effort to prove that the supposed Aalternatives@ did not themselves infringe Rambus=s patents (or the patents of others). Complaint Counsel also failed to prove that any of the supposed alternatives were superior to Rambus=s inventions in terms of performance and/or cost (even accounting for Rambus=s royalties). It also is clear that there has been and will be no economic injury because the royalties that Rambus is charging today for the use of its patented inventions are the same royalties that it would have charged in Complaint Counsel=s hypothetical Abut for@ world. Moreover, the royalty rates Rambus charges are consistent with the JEDEC Areasonable and non-discriminatory@ standard.

For all of these reasons, as discussed further below and as set forth in detail in Rambus=s Proposed Findings, this Court should find that Complaint Counsel have not met their burden of proof and should, accordingly, dismiss the Complaint.

II. COMPLAINT COUNSEL=S CASE AND THEIR BURDEN OF PROOF

Complaint Counsel allege that Rambus=s conduct at JEDEC violated Section 5 of the FTC Act. 15 U.S.C. ' 45(a)(1). The Act encompasses Apractices that violate the Sherman Act and the other antitrust laws.@ *FTC v. Indiana Federation of Dentists*, 476 U.S. 447, 454 (1986). The first two of Complaint Counsel=s three claims Aare based on principles emanating from Section 2 of the Sherman Act B *i.e.*, the monopolization and attempted monopolization claims.@ Complaint Counsel=s Memorandum in Opposition to Respondent Rambus Inc.=s Motion for Summary Decision, filed Mar. 25, 2003 (Summary Decision Opp.), p. 33. Complaint Counsel=s final claim alleges that Rambus has engaged in Aunfair methods of competition,@ which Complaint Counsel Aadvances . . . as one entailing proof falling somewhere in between that which would be required to establish, on the one hand monopolization, or on the other, attempted monopolization, under Section 2 of the Sherman Act.@ *Id.* at 35. By this, Complaint Counsel mean that the Aunfair methods of competition@ claim requires proof of anticompetitive effects Amore than the threatened effect that might suffice for attempted monopolization.@ *Id.* at 36. Accordingly, to prevail in this case, Complaint Counsel must prove all of the elements of a monopolization claim or an attempted monopolization claim.

A. The Elements Of Complaint Counsel=s Claims

To prove monopolization, a plaintiff Amust show that 1) the defendant possessed monopoly power in the relevant market and 2) the defendant willfully acquired or maintained this monopoly power by anticompetitive conduct as opposed to gaining that power as a result >of a superior product, business acumen, or historical accident.=@ *Concord Boat Corp. v. Brunswick Corp.*, 207 F.3d 1039, 1060 (8th Cir. 2000) (quoting *United States v. Grinnell Corp.*, 384 U.S. 563, 570-71 (1966)). For an attempted monopolization claim, a plaintiff must prove A(1) that the defendant has engaged in predatory or anticompetitive conduct with (2) a specific intent to monopolize and (3) a dangerous probability of achieving monopoly power.@ *Spectrum Sports v. McQuillan*, 506 U.S. 447, 456 (1993).

Under either theory, Complaint Counsel must, at a minimum, prove that Rambus (a) engaged in anticompetitive conduct and (b) that this conduct, as opposed to the superiority of its patented technology, led to the acquisition of or dangerous probability of gaining monopoly power, *i.e.*, the ability to raise prices by restricting output. *See, e.g., PepsiCo, Inc. v. Coca-Cola Co.*, 315 F.3d 101, 107 (2d Cir. 2002) (Amarket power is defined as ›the ability to raise price by restricting output=@). This means that Complaint Counsel must prove that Rambus engaged in anticompetitive conduct that caused or threatens to cause anticompetitive harm. *See, e.g., Dickson v. Microsoft Corp.*, 309 F.3d 193, 211 (4th Cir. 2002) (AThe offense of monopolization requires a showing of ›anticompetitive effect.=@); *United States v. Microsoft Corp.*, 253 F.3d 34, 58 (D.C. Cir. 2001) (Ato be condemned as exclusionary, a monopolist=s act must have an ›anticompetitive effect= . . . . the plaintiff, on whom the burden of proof of course rests must demonstrate that the monopolist=s conduct indeed has the requisite anticompetitive effect@ (internal citations omitted)); *Taylor Publ=g Co. v. Jostens, Inc.*, 216 F.3d 465, 474 (5th Cir. 2000) (in attempted monopolization case, court looks at threatened effects Ain light of the state of the market@). In other words, Complaint Counsel must prove not only that Rambus=s conduct was Aanticompetitive@ (a term with a particular meaning defined below), but that the conduct caused or threatens to cause some increase in price, restriction in output, or diminishment of quality in some relevant market. *See, e.g., Big Bear Lodging Ass=n v. Snow Summit, Inc.*, 182 F.3d 1096, 1104 (9th Cir. 1999) (AMonopolization claims can only be evaluated with reference to properly defined geographic and product markets.@); *Concord v. Boston Edison Co.*, 915 F.2d 17, 22 (1st Cir. 1990) (monopolization only occurs where conduct Aobstruct[ed] the achievement of competition=s basic goals B lower prices, better products, and more efficient production methods@).

B. Complaint Counsel=s Burden Of Proof

The courts have long recognized an inherent tension between the patent and antitrust laws. Pursuant to Article 1 of the Constitution, a patent confers a legal monopoly for a limited period of time. In return for a patent, the patentee must fully disclose the patented invention or process, and after the expiration of the statutory period, the patentee loses all exclusive rights to the invention. *See generally Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470, 480-81 (1974). As the Federal Circuit has explained, this system Aserves a very positive function in our system of competition, *i.e.*, >the encouragement of investment based risk,=@ which in turn A>encourages innovation and its fruits: new jobs and new industries, new consumer goods and trade benefits.=@ *Loctite Corp. v. Ultraseal, Ltd.*, 781 F.2d 861, 876-77 (Fed. Cir. 1985) (citation omitted).

Precisely because a patent constitutes a monopoly (albeit a lawful one), a patentee who attempts to enforce a patent is often faced with threats of antitrust liability. Most commonly, the defendant accuses the patentee of obtaining market power improperly by withholding material information from the patent office in the course of obtaining the patent. Such claims are called A*Walker Process*@ claims, after the Supreme Court=s decision in *Walker Process Equipment, Inc. v. Food Machinery & Chemical Corp.*, 382 U.S. 172 (1965), which allowed the fraudulent procurement of a patent to form the basis for an antitrust claim under certain circumstances.

The courts have consistently required parties asserting *Walker Process* claims to prove the elements of fraud with Aclear and convincing@ evidence. *See, e.g., Loctite Corp.*, 781 F.2d at 876-7. They have done so not simply because many, if not most, states require clear and convincing evidence of common law fraud. *See generally* 9 WIGMORE, EVIDENCE (Chadbourn rev. 1981), & 2498 at p. 424. The courts have required the heightened burden of proof for substantial public policy reasons, in recognition of the statutory basis of a patent=s monopoly status and to Aprevent frustration of patent law by the long reach of antitrust law.@ *Handgards, Inc. v. Ethicon, Inc.*, 601 F.2d 986, 996 (9th Cir. 1979) (discussing *Walker Process* and holding that the Aclear and convincing@ standard that had been applied in such cases would also apply to antitrust claims based upon the bad faith enforcement of a patent); *see also Zenith Elecs. Corp. v. Exzec, Inc.*, 182 F.3d 1340, 1352 (Fed. Cir. 1999) (observing that a Asuitable accommodation@

between the patent and antitrust laws Ahas been achieved by erecting certain barriers to antitrust suits against a patentee attempting to enforce its patent@).

As Complaint Counsel will be quick to point out, this is not a private antitrust suit brought in federal court, and the Administrative Procedure Act has been held to require that an administrative agency need satisfy only a preponderance of the evidence burden in most agency proceedings. *See Steadman v. SEC*, 450 U.S. 91, 95 (1981). The Federal Trade Commission, however, has acknowledged the tension between the interests served by the patent and antitrust laws and has expressly adopted the Aclear and convincing@ standard of proof in Section 5 cases based on the allegedly fraudulent procurement of a patent. As early as the 1960=s, in the *American Cyanamid* cases, the Commission observed that A[w]here fraud in the procurement of a patent has been alleged in infringement suits and cancellation proceedings, the courts have stated that it must be established by clear and convincing evidence that the false or misleading statement was made (or information was withheld) deliberately and with intent to deceive. Also, of course, the information that is misrepresented or withheld must be material.@ *In the Matter of American Cyanamid Co.*, 63 F.T.C. 1747, 1963 FTC Lexis 77 at *224-5. Upon remand from the Sixth Circuit, the Commission again employed the Aclear and convincing@ standard in finding that American Cyanamid and Pfizer had committed fraud upon the patent office. *See In the Matter of American Cyanamid Co.*, 72 F.T.C. 623, 1967 FTC Lexis 43 at *138-*145.

More recently, in *In the Matter of VISX, Inc.*, Docket No. 9286, the Commission alleged that VISX, Inc. had fraudulently procured a patent covering certain surgical procedures. The Commission alleged, as an alternative, that VISX had engaged in Ainequitable conduct@ before the Patent Office that justified an order barring further enforcement of the patent. In a lengthy Initial Decision, Judge Levin held that:

> (1) an antitrust claim based upon the allegedly fraudulent procurement of a patent requires, in part, that the Commission present A[c]lear and convincing evidence of an intent to deceive the examiner and reliance must be adduced@; and
>
> (2) to establish inequitable conduct, Aclear and convincing evidence must demonstrate both the materiality of the reference . . . and a deceptive intent in withholding the reference. . . .@

Initial Decision, *In the Matter of VISX, Inc.*, Dkt. No. 9286 (filed May 27, 1999) (available at www.ftc.gov/os/adjpro/d9286/index.htm) (AVISX Initial Decision@), pp. 111, 139. Complaint Counsel conceded the correctness of this approach, noting in their Post-Hearing Brief that to find either fraud or inequitable conduct, A[m]ateriality, intent and ›but for= all must be proved by clear and convincing evidence, evidence ›which proves in the mind of the trier of fact an abiding conviction that the truth of [the] factual contentions [is] highly probable.=@ Complaint Counsel=s Post-Hearing Brief, *In the Matter of VISX, Inc.*, Dkt.. No. 9286 (filed April 7, 1999), p. 9 n.26 (citations omitted) (available in Commission file).

After reviewing the evidence, Judge Levin dismissed the fraud and inequitable conduct claims. As he explained:

> The patent grant allows the patentee to exclude competition in the use of the patented invention, and the absence of clear and convincing evidence of concealment or omission of the prior art with intent to deceive necessarily strips complaint charges of monopolization, attempted monopolization, and unfair competition of all foundation and support. Absent fraud or inequitable conduct, the other elements of the violations alleged in the complaint are not material under Rule 3.51(c)(1). Since Complaint Counsel have failed to adduce clear and convincing evidence that prior art was either withheld or omitted with intent to deceive the PTO, a Section 5 violation cannot, as a matter of law, be sustained against VISX on *Walker Process* or *American Cyanamid* grounds. Accordingly, Count 3 of the complaint must be dismissed.

VISX Initial Decision, p. 145.[2]

[2]The Commission subsequently granted Complaint Counsel's motion to dismiss an appeal from Judge Levin's Initial Decision. *See* Order Reopening The Record and Dismissing The Complaint, *In the Matter of VISX, Inc.*, Dkt. No. 9286 (filed February 9, 2001) (available at www.ftc.gov/os/caselist/d9286.htm).

Complaint Counsel will argue that they have not asserted a *Walker Process* claim, and that *American Cyanamid* and *VISX* are not applicable here. There are, however, substantial similarities between the claims asserted in *American Cyanamid* and *VISX* and the claims asserted in the Complaint, and all of the policy considerations that led the Commission and Judge Levin to require Aclear and convincing@ evidence in those cases apply with equal force here. For example, the alleged wrongdoing in each case was the failure on the part of the patentee to make certain disclosures in the face of a purported duty to disclose. In each case, the Commission alleged that, as a result of its non-disclosure, the patentee had unfairly acquired market power that it would not have otherwise held. And in each case, the remedy sought was (and is here) an order barring the respondent from exercising its right of free access to the courts to enforce its patents. Since the right to petition the courts is not just based in the patent laws but also springs from the Constitution, it may not lightly be taken away by a court or agency. *See generally CVD, Inc. v. Raytheon Co.*, 769 F.2d 842, 849 (1st Cir. 1985) (Acourts have protected the federal interests in patent law enforcement and the free access to the courts by requiring, in addition to the other necessary elements of an antitrust claim, >clear and convincing evidence= of fraud in asserting or pursuing patent infringement claims.@)

A heightened burden of proof is appropriate here not just because of the nature of the remedy sought. In addition, there are strong public policy considerations arising from what Complaint Counsel concede is the social importance of standard-setting organizations in today=s high-tech economy. The risks associated with participation in standards-setting must not be so great that innovators are deterred from participating by fear that a mistake in judgment, or an Aafter-the-fact morphing of a vague, loosely defined policy,@ could lead to forfeiture of valuable intellectual property. *Infineon*, 318 F.3d at 1102 n.10.

The clear and convincing burden of proof is also appropriate here because of the nature of the claims asserted and the evidence offered to support those claims. As a three-judge panel in a Nuclear Regulatory Commission proceeding explained in 1992, an agency finding of dishonesty or fraud can result in Asevere reputational injury,@ which supports the utilization of a higher standard of proof. *See Inquiry Into Three Mile Island Unit 2 Leak Rate Data Falsification*, 19XX WL 910, *14 (N.R.C. 1992). In addition, where an agency=s examination of events comes well after the events transpired, and the resolution of important issues Adepends on strained and faded memories, it would be unfair to find a person guilty of dishonest or fraudulent conduct on a mere preponderance of the evidence.@ *Id.*

In sum, given the conflicting statutory interests involved, given the nature of the claims alleged and the evidence offered to support and rebut them, and given the fundamental nature of the rights that would be lost were the remedy sought ever implemented, it is not just appropriate, but necessary, that Complaint Counsel bear the burden of proving the essential elements of their claims, including Amateriality, intent and ›but for,=@ by clear and convincing evidence.

III. COMPLAINT COUNSEL HAVE FAILED TO PROVE THE ESSENTIAL ELEMENT OF THEIR CASE B THAT RAMBUS FAILED TO DISCLOSE INFORMATION REQUIRED TO BE DISCLOSED BY JEDEC=S RULES, PRACTICES OR PROCEDURES[3]

A. Complaint Counsel=s Core Allegation Is That Rambus Failed To Comply With A JEDEC Disclosure Obligation Imposed Upon It

The central allegation underlying Complaint Counsel=s claims is that Rambus violated Acommonly known@ JEDEC rules by failing to disclose to JEDEC=s members that it had filed, or might in the future file, patent applications that Amight be involved in@ JEDEC=s standard-setting work. Complaint, && 21, 24, 47-55, 70-80; (Complaint Counsel=s (ACC@) Opening, Tr. 8-9).

Judge Timony similarly summarized the allegations in the Complaint in November 2002:

> The Complaint=s core allegation is that, through omissions, Rambus intentionally misled the members of JEDEC with regard to the possible scope of Rambus=s pending or future patent applications, in violation of the purported JEDEC

[3] The discussion in this Section III corresponds generally to Sections IV and V of Rambus=s Proposed Findings, RPF 108-462.

> patent disclosure policy. Complaint at && 2, 47-55, 70-80. According to the Complaint, had Rambus made the allegedly necessary disclosures, JEDEC could have adopted alternative technologies and avoided Rambus=s patented technologies. Complaint at && 62, 65, 69. These allegations raise three fundamental issues: (1) whether the JEDEC disclosure duty is as broad and comprehensive as alleged in the Complaint; (2) whether Rambus actually violated any such duty to disclose imposed by JEDEC rules; and (3) whether the alleged failure to disclose was material and caused the competitive injury alleged in the Complaint.

See Opinion Supporting Order Denying Motion by Mitsubishi to Quash or Narrow Subpoena, filed November 18, 2002, at 4 (emphasis added).

Most recently, in their Opening Statement, Complaint Counsel confirmed that their claims are fundamentally founded on the allegation that Rambus concealed Ainformation B in violation of JEDEC=s own operating rules and procedures.@ (CC=s Opening, Tr. 9; *accord*, Tr. 13).

Legally, if Complaint Counsel cannot prove that Rambus had a duty to disclose information to JEDEC that it did not disclose, Complaint Counsel=s claims must fail. *See* subsections B & C below. Factually, this also is true. Indeed, it is undisputed. As Complaint Counsel=s economic expert conceded, if Rambus did not have a duty to disclose its intellectual property (or hoped-for intellectual property) covering a particular technology, then he could form no opinion that Rambus=s failure to make such a disclosure was exclusionary conduct. RPF 1476-1485; (McAfee, Tr. 7546). Further, if Rambus had never joined JEDEC, and thus had never had any JEDEC rules imposed on it, its failure to disclose could not be exclusionary and no claim could be asserted against it. *Id*.; (McAfee, Tr. 7689).

B. Complaint Counsel Must Prove That Rambus Knowingly And Intentionally Breached A Duty To Disclose In Order To Mislead JEDEC

To prevail on their monopolization claim, Complaint Counsel must prove that Rambus Awillfully acquired or maintained this monopoly power by anticompetitive conduct.@ *Concord Boat*, 207 F.3d at 1060. That is, Complaint Counsel must prove that Rambus intentionally engaged in anticompetitive conduct. *See, e.g., United States Football League v. National Football League*, 842 F.2d 1335, 1359 (2d Cir. 1988) (AThe willfulness element certainly requires proof of intent.@). To prevail on their attempted monopolization claim, Complaint Counsel must prove that Rambus engaged in exclusionary conduct with Aa specific intent to monopolize.@ *Spectrum Sports*, 506 U.S. at 456. Importantly, the intent necessary to support either of Complaint Counsel=s claims B an intent to gain monopoly through anticompetitive conduct B must be distinguished from an intent to achieve market position through lawful competition:

> The Aintent@ to achieve or maintain a monopoly is no more unlawful than the possession of a monopoly. Indeed, the goal of any profit-maximizing firm is to obtain a monopoly by capturing an ever increasing share of the market. Virtually all business behavior is designed to enable firms to raise their prices above the level that would exist in a perfectly competitive market. Economic rent B the profit earned in

> excess of the return a perfectly competitive market would yield B provides the incentive for firms to engage in and assume the risk of business activity. Monopolies achieved through superior skill are no less intentional than those achieved by anticompetitive means . . . . so the intent relevant to a ' 2 Sherman Act claim is only the intent to maintain or achieve monopoly power by *anti-competitive means*.

Illinois, ex rel. Burris v. Panhandle E. Pipe Line Co., 935 F.2d 1469, 1481 (7th Cir. 1991) (emphasis original).

In this case, therefore, it is not enough for Complaint Counsel to show that Rambus sought to obtain patents for its inventions that were being incorporated into the JEDEC standards; as discussed above, the patent laws gave Rambus that right. By the same token, biting comments about preparing a patent minefield, directing claims at standards, or hoping that others infringe Rambus patents, absent more, <u>do</u> <u>not</u> show an anticompetitive intent. *See, e.g., Advo, Inc. v. Philadelphia Newspapers*, 51 F.3d 1191, 1199 (3d Cir. 1995) (affirming summary judgment on attempted monopolization claim where plaintiff=s attempt to Acut and paste@ unrelated quotes from defendant=s documents containing Acolorful, vigorous hyperbole@ B including statements that when defendant saw Athe competition drowning@ it would Astick a water hose down their throats@ B failed to prove specific intent to monopolize); *Ocean State Physicians Health Plan, Inc. v. Blue Cross & Blue Shield*, 883 F.2d 1101, 1113 (1st Cir. 1989) (evidence of an intent to Acrush@ a competitor does not show anticompetitive intent). This type of evidence, without more, simply shows that Rambus sought to gain a competitive advantage through lawful means, by ensuring that the inventions disclosed in the original Farmwald-Horowitz application were properly claimed.

Here, the anticompetitive conduct alleged by Complaint Counsel is that Rambus intentionally sought to mislead JEDEC. Complaint Counsel must therefore prove that Rambus intended through its actions or omissions to mislead JEDEC by knowingly violating a JEDEC disclosure rule. *Cf. Pence v. United States*, 316 U.S. 332, 337 (1942) (for federal common law fraud claim, plaintiff must show that representation was made with knowledge of its falsity and with intent to deceive); *MCI Communications Corp. v. American Tel. & Tel. Co.*, 708 F.2d 1081, 1129 (7th Cir. 1983) (holding that representations about product must be Aknowingly false or misleading before it can amount to an exclusionary practice@); *ILC Peripherals Leasing Corp. v. International Business Machines Corp.*, 458 F. Supp. 423, 442 (N.D. Cal. 1978) (granting directed verdict on monopolization and attempted monopolization claims based on allegedly misleading statements where there was Anothing knowingly false@ about the representations).

However, the record evidence in this case does not prove that Rambus intentionally misled JEDEC or intentionally violated its rules, but rather demonstrates that Rambus attempted to discern JEDEC=s rules and to abide by them. Upon joining JEDEC and thereafter, Rambus sought the advice of its counsel as to how it should conduct itself at JEDEC. Rambus was advised to avoid any conduct that could be construed as indicating that it would not enforce its patents, and it conformed its conduct to that advice. Further, and most importantly, the evidence at trial confirmed what the Federal Circuit also concluded: Rambus did not breach any JEDEC duty to disclose because it never had any patent or patent application that was required to be disclosed.

C. As A Matter Of Law, Complaint Counsel Must Prove That Rambus Willfully Violated A JEDEC Rule In Order To Establish An Antitrust Violation

Although it now appears that Complaint Counsel may concede that, in order to prevail, they must prove Rambus violated JEDEC disclosure rules B especially since that is the testimony of their economics expert B statements made by Complaint Counsel in their opening statement and elsewhere suggest that Complaint Counsel may still hope to prove an antitrust violation on the basis of conduct that is contrary to the Aspirit@ or intent of JEDEC=s Aopen standards@ process. Such an effort to establish an antitrust violation without showing that Rambus violated a clearly stated duty owed to JEDEC would necessarily fail as a matter of law, as well as a matter of fact.

Because of the relative novelty of imposing antitrust liability for nondisclosure in private standard-setting, there is virtually no case law elucidating precisely what constitutes anticompetitive conduct in that context. One line of cases involving the imposition of antitrust liability for nondisclosure springs from the Supreme Court=s decision in *Walker Process*. There, the Supreme Court held that the procurement of a patent by fraud on the Patent Office is anticompetitive conduct that may be the basis of an action under Section 2 of the Sherman Act, provided that the other elements of a Sherman Act claim are present. *Id.* 382 U.S. at 177.

Because of the onerous nature of antitrust liability, the federal courts have held that a showing of nothing less than Acommon law fraud [is] needed to support a *Walker Process* []claim,@ conduct that Acould alone form the basis of an actionable wrong.@ *Nobelpharma AB v. Implant Innovations*, 141 F.3d 1059, 1069 (Fed. Cir. 1998) (quotations omitted); *see also C.R. Bard, Inc. v. M3 Sys., Inc.*, 157 F.3d 1340, 1364 (Fed. Cir. 1998) (stating that the Court clarified in *Walker Process* that A>knowing and willful= fraud must be shown, and is predicate to potential antitrust violation@).

Complaint Counsel have never been able to point to a particular affirmative misrepresentation of material fact B that is, a knowingly false statement uttered by Rambus (*see, e.g.*, Summary Decision Opp., p. 3 n. 2 (failing to cite any allegedly false statements allegedly uttered by Rambus) B and the record evidence reveals none. The anticompetitive conduct alleged here are instead acts of fraud by nondisclosure. Thus, while Complaint Counsel repeatedly use pejorative terms like Abad faith@ and Adeceptive,@ it is clear that the conduct Complaint Counsel allege was required of Rambus depended on the rules and policies of JEDEC. Complaint Counsel=s claim would not have been brought had Rambus=s conduct occurred in the context of a different standard setting organization that concededly had no patent rules or policies of the type they attribute to JEDEC, and it certainly would not have been brought if Rambus had never joined

JEDEC. Contrary to Complaint Counsel=s contention, then, Rambus=s Aliteral compliance@ with any applicable JEDEC disclosure obligations <u>does</u> preclude a finding that Rambus defrauded JEDEC members and accordingly <u>does</u> preclude the imposition of antitrust liability in this case. *See generally Nobelpharma AB*, 141 F.3d at 1069 (noting that conduct before the PTO falling short of common law fraud does not warrant the imposition of antitrust liability).

Complaint Counsel thus must prove by clear and convincing evidence that Rambus breached a JEDEC imposed duty to disclose and that JEDEC members were consequently misled.

D. What, If Any, Disclosure Obligations Did JEDEC Impose On Its Members?

1. Introduction

As the following discussion makes plain, the record evidence has established that JEDEC encouraged, but did not require, the disclosure of Aessential@ patents. The evidence has also established that JEDEC did not require the disclosure of patent applications or of intentions to file or amend patent applications.

The evidence also shows that *even if*, as some witnesses claimed, patent disclosure was required, it was <u>not</u> required until the time of balloting of a particular proposal. In addition, all witnesses agreed that any disclosure obligation that existed was premised upon the Aactual knowledge@ of JEDEC participants.

The evidence also shows that the ultimate goal of the JEDEC patent policy was that those patents that did affect standards be made available to all potential licensees on reasonable terms. Indeed, several JEDEC members understood that, as long as a company licensed its patents on RAND terms after they issued, there was no need to disclose anything at all.

Although the substantial weight of the evidence supports these conclusions, not all of the evidence does. There is some contrary evidence, in the form of testimony by certain interested individuals, as to what the JEDEC policy was. One of the Court=s challenges thus will be to decide what weight to give various pieces of evidence. The legal and common sense principles to be applied in weighing the evidence on these and other issues are discussed below. That preliminary discussion is followed by a discussion of the evidence relating to the JEDEC patent policy.

2. Principles That Guide Weighing The Evidence

Rambus has consistently urged this Court, in considering whether JEDEC members took on some disclosure obligation and, if so, what the metes and bounds of that disclosure obligation were, to look to contemporaneous evidence B what JEDEC members said, wrote and did during the time period from early 1992 to mid-1996. For many reasons, such contemporaneous evidence, rather than retrospective testimony B Athis is what I recall we did back then@ B has much greater evidentiary value. First, it is less subject to the vagaries of imperfect memory. Second, it is less subject to being influenced by the current state of affairs. As an example, if JEDEC=s policies or the manner in which they are described are different today from what they were during the pertinent time period, it might be difficult to remember clearly what the policies were. Third, the interests, biases and points of view of many of the witnesses who testified are quite strong, and particularly with regard to those witnesses, their recent testimony should be viewed skeptically, especially when it conflicts with contemporaneous evidence. For these reasons, this Court should give much greater weight to the contemporaneous evidence than to conflicting oral testimony.

The courts that have considered this same question B how to weigh contemporaneous evidence against conflicting recent testimony B have reached the same conclusion that Rambus urges this Court to reach. In fact, courts have frequently observed that Aas a general rule, oral testimony in conflict with contemporaneous documentary evidence deserves little weight.@ *Beddingfield v. Sec=y of HHS*, 50 Fed. Cl. 520, 523 (2001). The rule, sometimes referred to as the A*Gypsum* rule,@ is derived from the Supreme Court=s ruling in *United States v. United States Gypsum Co.*, 333 U.S. 364, 396 (1948). In *Gypsum*, the Court held that the trial court had committed clear error in giving weight to after-the-fact oral testimony by the defendants= witnesses where such testimony was in conflict with the contemporaneous documentary evidence. *Id*.

The Commission has often relied upon the *Gypsum* rule. In *In the Matter of Litton Industries, Inc.*, 82 F.T.C. 793, 1973 FTC LEXIS 83 (1973), for example, respondent=s witnesses testified at trial that a company it had acquired faced imminent bankruptcy at the time of the acquisition. Contemporaneous documents, however, Areflect[ed] confidence and optimism about [the company=s] future market opportunities in the United States. . . .@ *Id. at *385.* The Commission pointed out that A[i]t is well established that where such testimony is in conflict with contemporaneous documents, the testimony is entitled to little weight.@ *Id.*; *Accord*, *In the Matter of Polygram Holding, Inc.*, 2002 FTC LEXIS 28, 138 (June 20, 2002) (Initial Decision by Judge Timony) (ALittle weight can be accorded to deposition testimony that conflicts with the contemporaneous written record.@); *In the Matter of the Timken Roller Bearing Company*, 58 F.T.C. 98, 1961 FTC LEXIS 354, *18 (1961) (AWhere, as here, oral testimony given several years later, is not consistent with contemporaneous written statements, such oral testimony can be given little weight.@).

This rule is particularly apropos here, where many of the witnesses who testified have a strong interest in the outcome. Many witnesses work for companies that manufacture or use DRAMs that infringe Rambus=s patents. If this Court were to find that Rambus=s patents may not be enforced, those companies would realize a substantial financial windfall. Other witnesses, such as Desi Rhoden, work for entities that are entirely controlled by DRAM manufacturers or that are committed to developing technologies that will compete with Rambus=s technologies.

For all of these reasons, this Court should give little if any weight to recent testimony that conflicts with contemporaneous evidence.

3. The Governing Manuals And Policies Did Not Require Disclosure Of Intellectual Property Interests[4]

Throughout most of the 1990's, JEDEC was an unincorporated Asubpart@ or Aactivity@ within the engineering department of a trade association known as the Electronic Industries Association (AEIA@). RPF 1-2, 108. This was true when Rambus joined JEDEC, and it continued to be true at the time that Rambus sent its formal confirmation of withdrawal from JEDEC in June 1996. RPF 108-109. Thus, in looking for what the governing manuals provided during this pertinent time period, we begin first with the EIA manuals.

The EIA Legal Guides were published in March 1983 and remained in effect throughout the pertinent time period. They governed Aall EIA engineering standardization and related programs@ and were required to be followed by JEDEC members. (CX 204 at 4). The EIA Legal Guides provide that a Abasic objective@ of EIA standardization activity is that A[s]tandards are proposed or adopted by EIA without

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[4] This section corresponds generally to Sections IV.B, IV.C, IV.F.1 and IV.F.2 of Rambus=s Proposed Findings, RPF 112-84, 204-18.

regard to whether their proposal or adoption may in any way involve patents on articles, materials, or processes.@ *Id*. The EIA Legal Guides do not contain any reference to any disclosure obligation in connection with a member=s intellectual property interests. RPF 112-115, 129-32.

During the time when Rambus was a JEDEC member, there were three other EIA manuals in effect, EP-3-F, EP-7-A and EP-7-B. None of these manuals makes any explicit reference to an obligation on the part of the EIA members or others to disclose patents or patent applications. EP-3-F provides simply that:

> ANo program of standardization shall refer to a product of which there is a known patent unless all the technical information covered by the patent is known to the formulating committee, subcommittee or working group. The Committee Chairman must also have received a written expression from the patent holder that he is willing to license applicants under reasonable terms and conditions that are demonstrably free of any unfair discrimination.@

(CX 203A at 11).

EP-7-A similarly provided:

> ANo program of standardization shall refer to a patented item or process unless all of the technical information covered by the patent is known to the formulating committee or working group, and the Committee Chairman has received a written expression from the patent holder that one of the following conditions prevails:
>
> (1) A license shall be made available without charge to applicants desiring to utilize the patent for the purpose of implementing the standard; or

> (2) A license should be made available to applicants under reasonable terms and conditions that are demonstrably free of any unfair discrimination.@

(JX 54 at 9-10).

The language in these two manuals does not require disclosure of intellectual property interests by anyone. Instead, it describes the approach to be followed if the standard is covered by a known patent. At most, this language can be read to suggest that disclosure of patents is encouraged and that, if an essential patent is disclosed, JEDEC should take steps to ensure that it will be available on RAND terms. Had the EIA intended to require the disclosure of patents, it is reasonable to assume it would have said so B it would have used mandatory language B but it did not. It is also reasonable to assume that, if the EIA had intended any disclosure obligation to extend to patent applications, it would have used those words, rather than referring just to patents. RPF 133-40. Indeed, the Chairman of the JC 42.3 subcommittee, Gordon Kelley, testified that he understood throughout the early and mid-1990's that the EIA manuals did *not* require the disclosure of patent applications. (Kelley, Tr. 2686-7, 2695-7).

In understanding what EIA=s rules required, it also is instructive to look at the American National Standards Institute (AANSI@) Patent Policy. ANSI was and is an umbrella organization that accredits various standards-setting organizations, including the EIA. ANSI published AGuidelines@ regarding its Patent Policy. These ANSI Patent Policy Guidelines were circulated to JC 42 members on at least two separate occasions while Rambus was a JEDEC member. RPF 124-26. John Kelly, EIA=s General Counsel, testified that he caused the ANSI Patent Policy Guidelines to be circulated to JEDEC 42.3 members in 1994 because he Athought they provided insight into the proper interpretation of the EIA and JEDEC patent policy.@ (Kelly, Tr. 1950). He <u>also</u> testified that the ANSI Patent Policy encourages, but does not require, the disclosure of any intellectual property interests (Kelly, Tr. 1961), and that the ANSI Patent Policy does not require the disclosure of patent applications (Kelly, Tr. 1958; 2074).

The ANSI Patent Policy was officially adopted by the EIA at least as early as 1995, when the EIA Manual EP-7-B was published. Thus, during the latter part of Rambus=s tenure as a JEDEC member, the ANSI policy explicitly governed at JEDEC meetings because it was formally adopted by EIA, and EIA=s policies controlled the conduct of JEDEC meetings. RPF 206-07.

The evidence also shows that the EIA explicitly informed the Federal Trade Commission that it Aendorse[d] and follow[ed]@ the ANSI Patent Policy. (RX 616 at 2; 669 at 2-3). In January 1996, the EIA wrote to the Federal Trade Commission in connection with the *Dell* case and stated that it Aendorse[d] and follow[ed] the ANSI intellectual property rights (IPR) policy as it relates to essential patents.@ The letter went on to state that, consistent with the ANSI Patent Policy, AEIA and TIA *encourage* the early, *voluntary* disclosure of patents that relate to the standards in work.@ *Id*. The EIA did not state that it or ANSI required the disclosure of patents and did not state that it had any disclosure requirement or expectation with respect to patent applications. (RX 669 at 2-3).

The EIA=s January 1996 letter to the FTC was submitted on behalf of the EIA and its unincorporated divisions and departments, including JEDEC. RPF 149. The letter was approved by and signed on behalf of Mr. John Kelly, the EIA General Counsel, as well as on behalf of Mr. Dan Bart, Vice President for Standards and Technology for EIA and TIA=s outside counsel. RPF 150.

The FTC clearly understood that the EIA/JEDEC patent policy, as it existed in early 1996, did not require the disclosure of intellectual property. In July of that year, FTC Secretary Donald Clark responded to EIA=s January 1996 letter and wrote that:

> AEIA and TIA, following ANSI procedures, encourage the early, voluntary disclosure of patents, but do not require a certification by participating companies regarding a potentially conflicting patent interest.@

(RX 740 at 1).

The words used by the EIA=s top legal officer and its Vice President in charge of standards, and the words used by FTC Secretary Clark, were clear and unambiguous. AVoluntary@ does not mean Arequired.@ It means, as Webster=s Third New International Dictionary tells us, an act Aperformed, made, or given of one=s own free will@ as well as an act performed Awithout any present legal obligation to do the thing done or any such obligation that can accrue from the existing state of affairs. . . ."

Webster's Third New International Dictionary Unabridged (1986), p. 2564.[5]

No further evidence should be necessary to establish that, when Rambus was a JEDEC member, the disclosure of patents was encouraged, but not required, that it was voluntary, not mandatory, and that it was limited to patents, not patent applications. RPF 128-56, 205-17. There is, however, more such evidence. We need only look to the July 10, 1996 memorandum from JEDEC Secretary Kenneth McGhee, which was sent to all "JEDEC Council Members and Alternates" in regard to the FTC's Final Consent Order in the *Dell* case. In that memorandum, which was dated the same day as FTC Secretary Clark's letter to the EIA, Secretary McGhee stated that:

> "ANSI and EIA do however, encourage early, voluntary disclosure of any known essential patents."

(RX 742 at 1).

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[5] The EIA had selected Webster's Third New International Dictionary as its official reference guide in 1990. (JX 54 at 3).

Complaint Counsel have in the past pointed to the JEDEC manuals, rather than the EIA manuals, in the hope of finding some contemporaneous written evidence to support their position that disclosure was mandatory. JEDEC Manual 21-H, which was in effect when Rambus joined JEDEC in 1992, provides no support for Complaint Counsel=s position. It provides only that AJEDEC standards are adopted without regard to whether or not their adoption may involve patents on articles, materials or processes.@ (CX 205A). The 21-H manual makes no other reference to intellectual property.[6] RPF 160-61.

The only contemporaneous documentary evidence from JEDEC to which Complaint Counsel can point is JEDEC manual 21-I, which bears an October 1993 publication date. In language that Complaint Counsel have cited repeatedly, manual 21-I refers to an obligation on the part of committee chairpersons to Acall attention to the obligation of all participants to inform the meeting of any knowledge they may have of any patents, or pending patents, that might be involved in the work they are undertaking.@ (CX 208 at 19). Although this language appears to conflict with the language in the

[6] Similarly, when Rambus filled out an application to join JEDEC, that application form said nothing about intellectual property or about its disclosure by or to JEDEC members. (CX 601).

governing EIA manuals, with the 1996 correspondence exchanged by the EIA and FTC, and with Secretary McGhee=s July 1996 explanation of the JEDEC patent policy, this apparent conflict is readily reconciled.

It is undisputed that JEDEC Manual 21-I was not effective until and unless it was approved by EIA=s Engineering Department Executive Council (AEDEC@). As John Kelly, EIA=s General Counsel, testified:

> AQ. The JEDEC manual 21-I, it needed a final stamp of approval from EDEC, correct?
>
> A. I believe at the time that was correct, yes, sir, in 1993.@

(Kelly, Tr. 2105). Mr. Kelly also testified that he did not know one way or the other if manual 21-I had ever received the necessary EDEC approval and that he had not intended, in response to questions from Complaint Counsel, to testify that 21-I had been approved by EDEC. *Id*.

It was Complaint Counsel=s burden to prove that manual 21-I was in effect during the time that Rambus was a JEDEC member. 16 C.F.R. C 3.43(a). Complaint Counsel made no effort to do so. No witness testified that the 21-I manual was approved by EDEC, and no documentary evidence was submitted to show that such approval was obtained. Although Mr. Kelly testified that he had access to EDEC=s minutes, Complaint Counsel chose not to call him in their rebuttal case to testify on this issue. Complaint

Counsel thus did not meet their burden to show the 21-I manual, or the language upon which they repeatedly rely, was ever in effect. RPF 163-70.

Subsequent events make clear that manual 21-I was, in fact, never in effect. For instance, both Mr. Kelly=s January 1996 letter to the FTC and Secretary McGhee=s July 1996 memorandum to JEDEC Council members describe the EIA patent policies as encouraging the voluntary disclosure of patents, rather than requiring the mandatory disclosure of patents and patent applications. These statements can be reconciled with Complaint Counsel=s interpretation of manual 21-I only if that manual was not in effect as of 1996. *See also* RPF 163-75.

4. The Contemporaneous JEDEC Ballots Encouraged, But Did Not Require, Disclosure By Members Of Relevant Patents [7]

Another source of contemporaneous evidence regarding JEDEC=s patent policy is the language contained in ballots that were used in the pertinent time period. The ballots contained the phrase AIf anyone receiving this ballot is aware of patents involving this ballot, please alert the committee accordingly during your voting response.@ (CX 252A at 2). This language talks about patents, not patent applications. It is framed in the form of a request, which is completely consistent with the evidence that disclosure

[7] **This section corresponds to RPF 182-85.**

was encouraged and voluntary, not required and mandatory. Moreover, when this language was first added to the ballots in 1989, there was a discussion in a JEDEC meeting of the purpose of the new ballot language. That discussion is reflected in the JC 42.1 minutes for the meeting held on September 13, 1989. The minutes state:

> ACouncil discussed patent issue at their June meeting at the request of JC-42.3. The result was not to change EIA legal requirements as outlined in document EP-7, but to add some wording on JEDEC ballot voting sheets about informing the Committee if any patent covers the balloted material.
>
> TI was concerned that Committee members could be held liable if they didn=t inform Committee members correctly on patent matters. *Committee responded that the question was added on ballot voting sheets for information only and was not going to be checked to see who said what.*@

(CX 3 at 6). This discussion is wholly consistent with an interpretation that the language on the ballot was intended to *encourage* but not *require* the disclosure of patents.[8]

JEDEC Chairman of the Board Desi Rhoden testified to the contrary. (Rhoden, Tr. 582). He testified that he interprets the ballot language that says, APlease

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[8] It is also useful to note that, while the ballot form uses the word Amandatory@ to refer to other information that was sought by the ballot, it does not use that term, or anything like that term, when it refers to patent-related information. (CX 252A).

alert the Committee@ to mean that a member Amust@ alert the Committee. Rhoden=s interpretation is a strained construction of the language itself. When considered in light of the JEDEC meeting minutes quoted above, the testimony stretches the language past the breaking point. It is simply not credible to read the meeting minutes or the ballot language itself as consistent with a mandatory duty of disclosure.

5. There Is Other Contemporaneous Written Evidence To Support The Conclusion That JEDEC Encouraged But Did Not Require The Disclosure Of Patents And That Its Members Had No Expectation Regarding The Disclosure Of Patent Applications[9]

In March 1994, after manual 21-I had been published, JEDEC Secretary Ken McGhee sent a memorandum to JC 42 Chairman Jim Townsend that stated that JEDEC=s Alegal counsel@ had said that Ahe didn=t think it was a good idea to require people at JEDEC standards meetings to sign a document assuring anything about their company=s patent rights. . . .@ (RX 486 at 1). Secretary McGhee=s memorandum communicates the various reasons that legal counsel had given to Mr. McGhee as to why JEDEC representatives should not be required to sign an assurance regarding their company=s patent rights:

A(1) It would have a chilling effect at future meeting.
(2) The general assurance wouldn=t be worth that much anyway.

[9] **This section corresponds generally to RPF 186-98.**

(3) It needs to come from a VP or higher within the company B engineers can=t sign such documents.
(4) It would need to be done at each meeting slowing down the business at hand.@

Id. This memorandum suggests that, even after the publication of manual 21-I, it was quite clear to the EIA counsel and to Secretary McGhee that neither EIA nor JEDEC had imposed a mandatory disclosure obligation on its members. If, for example, asking a JEDEC representative to sign a statement regarding patent rights would have a Achilling effect,@ how can it be possible that each representative was *already* under an *obligation* to disclose patents or patent applications or risk forfeiting those rights?[10]

Although not contemporaneous with Rambus=s membership in JEDEC, Secretary McGhee reaffirmed these views in February 2000, when he informed JEDEC 42.4 members that A[t]he JEDEC patent policy concerns items that are known to be patented that are included in JEDEC Standards. Disclosure of patents is a very big issue for Committee members and cannot be required of members at meetings.@ (RX 1582 at 1). McGhee=s e-mail went on to state that a company that had disclosed a patent application had gone Aone step beyond@ the patent policy. *Id*. Similarly, the February 2000 JEDEC Board of Directors meeting minutes state that disclosure of patent applications is Anot required under JEDEC bylaws.@ RPF 233-38l; (RX 1570 at 13).

[10] McGhee=s March 1994 memorandum also makes plain that the mere presence or silence of JEDEC members at a meeting could not constitute an assurance about the existence or non-existence of a company=s patents, because any such rule or expectation would have had the same Achilling effect@that Secretary McGhee and JEDEC=s legal counsel had described.

These statements make plain that patents, not applications, are the subject of JEDEC's patent policy, and that disclosure was voluntary, not mandatory.

6. The Conduct Of JEDEC Members During Rambus's Tenure Further Reinforces The Conclusion That JEDEC's Policy Did Not Require The Disclosure Of Patent Applications, Or Even Of Patents[11]

The conduct of JEDEC and its members during the time that Rambus was attending JEDEC meetings also sheds light on JEDEC's patent policy and further reinforces the conclusion that there was no obligation to disclose patent applications and that the disclosure of patents was encouraged and voluntary, not required and mandatory.

As an example, IBM's JEDEC representative, who also happened to chair the JC 42.3 subcommittee *and* the JEDEC Council, informed JEDEC members on several occasions that IBM would not disclose its intellectual property, and in particular its patent applications, at JEDEC meetings. (JX 15 at 6; RX 420 at 1; JX 18 at 8; JX 19; Kelley, Tr. 2715-16); RPF 197. Hewlett-Packard publicly announced that it was taking the same position. (Wiggers, Tr. 10593). There is no evidence that anyone objected to these statements or that IBM or Hewlett-Packard were in any way sanctioned for these

[11] **This section corresponds generally to RPF 199-203 and 239-73.**

positions. Instead, the position was accepted, presumably because it was consistent with JEDEC=s rules and with the expectations of JEDEC members.

In this same vein, on two occasions in 1992 and 1995, Rambus declined to comment at a JEDEC meeting when asked about its intellectual property. On neither occasion did JEDEC leaders, staff or members inform Rambus that disclosure was mandatory, rather than voluntary, or that the fact that it had declined to comment was a violation of JEDEC rules, policies or practices. RPF 198.

Finally, there is evidence that numerous patents and patent applications relating to JEDEC standards were not disclosed to JEDEC, even when named inventors were in the room when the proposed standard was being discussed. RPF 239-73. Although one might explain a few instances of non-disclosure as the result of inadvertence, or perhaps even as the result of a deliberate desire to evade JEDEC policy, the extent of such non-disclosures as revealed by the record evidence does not lend itself to such explanations. It is consistent only with the conclusion that JEDEC members understood that the disclosure of patent applications was not required and that the disclosure of patents was encouraged, but not mandatory.[12]

[12] As just one example, Gordon Kelley, the JEDEC representative from IBM who served as the Chair of the JC 42.3 committee in the early and mid-1990's, testified that he did not disclose IBM patents relating to Atoggle mode@ in 1990 in part because IBM was Aprepared to meet the requirements of the JEDEC committee@ to license the patents on reasonable and non-discriminatory terms. (Kelley, Tr. 200). If Mr. Kelley=s testimony is to be taken at face value, there was then no obligation to disclose even patents, at least in his mind, as long as the patent holder ultimately licensed its essential patents on RAND terms.

7. In Sum, No Contemporaneous Evidence Supports Complaint Counsel=s Position That Rambus Was Obligated To Disclose Its Patent Applications Or Its Intentions And Beliefs Regarding Its Patent Applications To JEDEC

With the exception of the language of JEDEC manual 21-I, there is no contemporaneous written evidence that suggests that JEDEC members were required or expected to disclose patent applications to JEDEC. The conduct of JEDEC members also demonstrates that they did not believe that they were required or expected to disclose patent applications or an intention to file or amend patent applications. The overwhelming weight of the contemporaneous evidence supports Rambus=s position that it was not obligated to disclose, and that no JEDEC member expected it to disclose, patent applications that it had filed or might file or might amend that might relate to or read on technologies under discussion at JEDEC.

8. The EIA/JEDEC Patent Policy Cannot Be Understood To Extend To Other Than AEssential@ Patents[13]

Even if one assumes that JEDEC members were obligated to disclose some intellectual property interests at JEDEC meetings while Rambus was a JEDEC member, the evidence shows that that obligation could have extended only to patents that were Aessential@ to a standard, that is, that were necessary for the manufacture or use of a

[13] **This section corresponds generally to RPF 274-85.**

product built in compliance with the standard. Numerous witnesses so testified. RPF 280-85.[14]

Common sense and good policy weigh in favor of this conclusion as well. First, if the relationship between JEDEC standards and patents to be disclosed was something other than patents that necessarily would be infringed, what was the appropriate relationship? There is no other bright line test that could be imposed. Instead, members would have a continuing risk of being second-guessed by someone later asserting that a patent was sufficiently Arelated@ that it should have been disclosed. This would lead, for instance, to every JEDEC member disclosing all its patents that related in any way to DRAMs to ensure that it did not later find itself defending the right to enforce a patent because it was not disclosed. This would lead to a disclosure standard that was extraordinarily overbroad.

[14] For example, JC 42.3 subcommittee chair Gordon Kelley testified that the disclosure duty was triggered by a patent claim that Areads on or applies@ to the standard, meaning that Aif you exercise the design or the production of the component that was being standardized [it] would require use of the patent.@ (Kelley, Tr. 2706-7).

Second, if such an overbroad standard were applied, JEDEC would spend inordinate amounts of time trying to sort through the disclosed patents to determine whether the technology under consideration for standardization was, in fact, covered by a patent. This would make JEDEC=s job even more difficult, and would slow down a process that many witnesses testified was already too slow. RPF 288-295; (RX 2011 at 4-6). *Accord*, David J. Teece & Edward F. Sherry, *Standard Setting and Antitrust*, 87 MINN. L. REV. 1913, 1948-49 (2003).

Third, if the purpose of disclosure was to enable JEDEC to decide whether to include patented technology in a standard, an overbroad disclosure obligation likely would result in JEDEC not standardizing the Abest@ technology because of a mistaken view that it might be patented.[15]

Finally, if the standard were something other than Aessential@ patents, then very valuable property rights B the right to enforce a patent against infringers B could be

[15] For the same reason B to avoid inaccurate and overly broad disclosures B many witnesses testified that any disclosure obligation was or should be limited to the Aactual knowledge@ of the JEDEC representatives. (*See, e.g.*, Kelly, Tr. 1970, 2171-2).

lost due to Aafter-the-fact morphing of a vague, loosely defined policy.@ *Infineon*, 318 F.3d at 1102, n.10.

9. If Any Disclosure Was Required, It Was Not Required Until The Time Of Balloting [16]

Were this Court to conclude that JEDEC members were obligated to disclose some intellectual property interests at JEDEC meetings while Rambus was a member, the Court should conclude that no such disclosure was required until a proposal was balloted for approval.

JC 42.3 Chairman Gordon Kelley, Siemens= representative Willi Meyer and Cray=s representative Alan Grossmeier testified that disclosure was required only at the time of balloting. *See* RPF 297-98. Although EIA General Counsel John Kelly contended that disclosure should come *before* balloting if the members had actual knowledge of the relationship between the patent and the standard, he conceded that this analysis involved Aan area of judgment,@ particularly Awhere . . . the standard is evolving [and] their IP may be evolving. . . .@ (Kelly, Tr. 1981), thus suggesting disclosure was not mandatory until the time of balloting. In addition, the purported purpose of any disclosure of intellectual property B to allow JEDEC to make a conscious decision as to

[16] **This section corresponds generally to RPF 296-300.**

whether to include patented technology in a standard B would best be served by a disclosure at the time of balloting. Otherwise, there would be many more disclosures than actually required, and JEDEC would spend significant amounts of time considering B or trying to avoid B patents that might not apply to the standard as it is ultimately balloted for approval. This would be inefficient and would slow even further an already-slow process.

E. Complaint Counsel Describe A APatent Policy@ That Is Too Indefinite To Be Enforced

Assuming the existence of some duty to disclose patents or patent applications to JEDEC, the failure to comply with this supposed duty will not support an *antitrust* claim unless the duty was clear and unambiguous. The Federal Circuit explained that a duty of disclosure must be clear and unambiguous if it is to support a fraud claim:

> When direct competitors participate in an open standards committee, their work necessitates a written patent policy with clear guidance on the committee=s intellectual property position. A policy that does not define clearly what, when, how, and to whom the members must disclose does not provide a firm basis for the disclosure duty necessary for a fraud verdict.

Infineon, 318 F.3d at 1102. This same logic applies to Complaint Counsel=s antitrust claim, which is based on an alleged violation of JEDEC=s patent policy; it would be nonsensical to impose antitrust liability where there is no firm basis to condemn the very same conduct under the very same theory framed in common law terms B if anything, the imposing weight of the antitrust laws is aimed at a narrower set of conduct than common law. *See, e.g., Brooke Group Ltd. v. Brown & Williamson Tobacco Corp.*, 509 U.S. 209, 225 (1993) (AEven an act of pure malice by one business competitor against another does not, without more, state a claim under the federal antitrust laws . . .@). Indeed, the patent-related equitable estoppel case law upon which Complaint Counsel have relied notes that Asilence alone will not create an estoppel unless there was a *clear duty to speak*, or somehow the patentee=s continued silence reinforces the defendant=s inference from the plaintiff=s *known acquiescence* that the defendant will be unmolested.@ *A.C. Aukerman Co. v. R.L. Chaides Cons. Co.*, 960 F.2d 1020, 1043-44 (Fed. Cir. 1992) (emphasis added) (internal citations omitted); s*ee also OddzOn Prods. v. Just Toys*, 122 F.3d 1396, 1404 (Fed. Cir. 1997) (holding that where the duty to disclose particular references to the Patent Office was Aambiguous@ and Aunclear,@ patentee could not, as a matter of law, have acted Awith deceptive intent@ when it failed to disclose references).

Antitrust law Arests on the premise that the unrestrained interaction of competitive forces will yield the best allocation of our economic resources.@ *Northern Pacific Railway Co. v. U.S.*, 356 U.S. 1, 4 (1958). To avoid interfering with that interaction, courts have been Acareful to avoid constructions of ' 2 which might chill competition, rather than foster it.@ *Spectrum Sports v. McQuillan*, 506 U.S. at 458. It is thus a fundamental precept that antitrust law requires a clear demarcation between condemned conduct and conduct that B while perhaps implicating other laws B is not the basis for antitrust liability. *See, e.g.*, *Concord v. Boston Edison Co.*, 915 F.2d 17, 22 (1st Cir. 1990) (Breyer, J.). Ambiguous rules are likely to have a chilling effect on otherwise pro-competitive conduct. *See, e.g.*, *International Distribution Centers, Inc. v. Walsh Trucking*, 812 F.2d 786, 796 n.8 (2d Cir. 1987) (AA major concern underlying antitrust jurisprudence lies in the fear of mistakenly attaching antitrust liability to conduct that in reality is the competitive activity the Sherman Act seeks to protect.@); *USM Corp. v. SPS Technologies, Inc.*, 694 F.2d 505, 512 (7th Cir. 1982) (patent misuse claims should be tested by conventional antitrust principles given that the Alaw is not rich in alternative concepts of monopolistic abuse; and it is rather late in the day to try to develop one without in the process subjecting the rights of patent holders to debilitating uncertainty@). As the Federal Circuit recognized, an ambiguous patent disclosure duty would Achill participation in open standard-setting bodies.@ *Infineon*, 318 F.3d at 1102 n.10. Similarly, to premise antitrust liability on such a policy would Ahave a chilling effect on beneficial, pro-competitive market interaction.@ *Westman Com. Co. v. Hobart International*, 796 F.2d 1216, 1220 (10th Cir. 1986).

Absent a clearly defined duty to disclose, Complaint Counsel=s antitrust case unravels. Complaint Counsel cannot save its case through evidence of members= Aexpectations.@ As the Federal Circuit noted, members= expectations cannot be the basis for liability because absent a clear patent disclosure policy, Amembers form vaguely defined expectations as to what they believe the policy requires B whether the policy in fact so requires.@ *Infineon*, 318 F.3d at 1102. This is especially true because testimony about Aexpectations@ is subject to Aafter-the-fact morphing of a vague, loosely defined policy to capture actions not within the actual scope of that policy.@ *Id.* at 1102 n.10. What is more, absent a clear and unambiguous duty to disclose, Complaint Counsel=s case cannot be salvaged by vague notions that Rambus=s conduct was somehow Aunethical@ or undertaken in Abad faith.@ As the Supreme Court has made clear, it is not the purpose of the antitrust laws to regulate such issues; *other* laws Aprovide remedies for various >competitive practices thought to be offensive to proper standards of business morality.=@ *NYNEX Corp. v. Discon, Inc.*, 525 U.S. 128, 137 (1998) (quoting 3 P. AREEDA & H. HOVENKAMP, ANTITRUST LAW **&** 651d, p. 78 (1996)).

Complaint Counsel, therefore, must prove that the patent policy clearly and unambiguously reached Rambus=s undisclosed intellectual property interests, but have failed to do so. On the basis of the record evidence, including that discussed above, this Court should conclude, as the Federal Circuit concluded, that Athere is a staggering lack of defining details in the EIA/JEDEC patent policy.@ *Infineon* 318 F.3d at 1102.

<u>First</u>, Complaint Counsel have failed to prove that the patent disclosure policy clearly required disclosure beyond issued patents to patent applications or to intentions to file patent applications (the disclosure of which would raise serious competitive risks). The great weight of the evidence in fact showed that the patent policy merely *encouraged*, but did not require, the disclosure of patent applications and had

nothing to do with *intentions* to file patent applications. A policy of encouragement, rather than coercion, is fully consistent with JEDEC members= legitimate business reasons for keeping patent applications confidential, as discussed further below.

<u>Second</u>, Complaint Counsel have failed to prove that the patent policy was so broad as to require the disclosure of patents, or applications that even if they issued as patents, were not required to be licensed in order to practice the standard. In other words, Complaint Counsel have failed to prove that any duty of disclosure extended beyond Aessential@ patents. Such broader duty would, in any event, make no sense and be impossible to apply. As the Federal Circuit explained, any rule that required disclosure of patent claims that were not necessary or essential in order to practice the standard would be nonsense:

> To hold otherwise would . . . render the JEDEC disclosure duty unbounded. Under such an amorphous duty, any patent or application having a vague relationship to the standard would have to be disclosed. JEDEC members would be required to disclose improvement patents, implementation patents, and patents directed to the testing of standard-compliant devices B even though the standard itself could be practiced without licenses under such patents.

Infineon, 318 F.3d at 1101.

Complaint Counsel cannot save their case by resting on proof that Rambus might have *believed* (albeit wrongly) that claims in its applications, if issued, would have covered technologies being standardized by JEDEC. As the Federal Circuit observed, the JEDEC policy has nothing to do with subjective beliefs:

> The JEDEC policy, though vague, does not create a duty premised on subjective beliefs. JEDEC=s disclosure duty erects an objective standard. It does not depend on a member=s subjective belief that its patents do or do not read on the proposed standard. Otherwise the standard would exempt a member from disclosure, if it truly, but unreasonably, believes its claims do not cover the standard. As discussed above, the JEDEC test in fact depends on whether claims reasonably might read on the standard. *A member=s subjective beliefs, hopes, and desires are irrelevant.* Hence, Rambus=s mistaken belief that it had pending claims covering the standard does not substitute for the proof required by the objective patent policy.

Infineon, 318 F.3d at 1104 (emphasis added). The record evidence has confirmed the Federal Circuit=s holding that any JEDEC patent disclosure duty can only be triggered by the objective fact that a JEDEC member holds patent interests that would cover a technology being standardized; a duty to disclose is not and cannot be triggered by an incorrect belief about patent interests. *See* RPF 274-85, 288-95.

Third, Complaint Counsel have failed to prove that any disclosure duty fell upon JEDEC members who only passively participated as opposed to members who were presenting their technologies. This failure of proof is fatal to Complaint Counsel=s claims since it is undisputed that Rambus never made any presentation at JEDEC.

Although they needed to do so in order to prove their antitrust claims, Complaint Counsel did not establish that JEDEC imposed a clear and unambiguous duty to disclose (1) patent applications, (2) including applications that Amight involve@ the technologies standardized by JEDEC, and (3) that were held by members that were not presenting their technologies for standardization.

F. Rambus Did Not Possess Any Intellectual Property During The Time It Was A JEDEC Member That It Was Obligated To Disclose

It may be most useful to break down the discussion of whether Rambus had any intellectual property during the time it was a JEDEC member that it was obligated to disclose to JEDEC into two parts.[17] The first part will address whether Rambus had any patents that it was required to disclose, and the second part will address whether it had any patent applications required to be disclosed.

1. Rambus Did Not Have Any Undisclosed Patents During The Time It Was A JEDEC Member That It Should Have Disclosed[18]

[17] It will, of course, be much easier to address Complaint Counsel=s theory when they finally set it forth. To date, the only constancy to Complaint Counsel=s theory of JEDEC=s patent policy is that it always is changing and morphing.

[18] This section corresponds generally to RPF 327-59 and the factual support for the arguments in this section is set forth there in detail.

The parties have stipulated that as of January 1996, Rambus had no U.S. patents that were essential to the manufacture or use of any JEDEC-compliant device. Thus, the only patents potentially in issue are those that issued after January 1996 but before Rambus formalized its withdrawal.[19] Narrowing the universe even further,

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[19] A preliminary question is whether Rambus had any obligation to disclose intellectual property after it stopped attending JEDEC meetings, but before it formalized its withdrawal. Complaint Counsel have failed to show that it did have any such obligation. Rambus paid dues only through 1995. After that, it was no longer a JEDEC member in good standing and it should not have been accorded the rights and privileges, or the obligations, of membership. Complaint Counsel have failed to show that there was any policy or practice of allowing companies to

Complaint Counsel contend only that Rambus should have disclosed U.S. Patent 5,513,327 (Athe =327 patent@), which issued on April 30, 1996.

There are several reasons why this patent was not required to be disclosed. First, disclosure of patents was not required, as demonstrated earlier. Second, Rambus ceased to attend JEDEC meetings and had no representative in attendance after December 1995; even if there was some duty to disclose, that duty was not imposed on companies who were not in attendance. Third, any disclosure duty depended on the actual knowledge of a company=s JEDEC representative that the company=s patent related to the work of JEDEC, and Complaint Counsel have failed to show that Richard Crisp had any actual knowledge that the =327 patent was related to the work of JEDEC. Fourth, there

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continue as members if they failed to pay their dues. Further, even if Rambus did continue to have rights as a member despite not paying its 1996 dues, what was it supposed to disclose when it did not have a representative in attendance at the meetings? Since its disclosure obligation was limited to the actual knowledge of its JEDEC representatives at the meeting, and since it had no representatives in attendance, it had no knowledge that would have given rise to a disclosure obligation.

were no alleged Atriggering events@ after the =327 patent issued. Fifth, the events that Complaint Counsel contend Atriggered@ a duty to disclose the =327 patent, and which did occur before the patent issued, were merely discussions, not ballot proposals, and thus no disclosure of patents Arelated@ to those discussions was required. Finally, if discussions occurring prior to the issuance of the =327 patent could, theoretically, have created a disclosure obligation when the patent later issued, the relationship between the =327 patent and the topics discussed at JEDEC meetings was so attenuated that no disclosure obligation would have arisen in any event; certainly the =327 patent could not be said to Aread on@ or be Aessential to@ any of the technologies discussed.

Complaint Counsel allege that disclosure of the =327 patent was required because claims 1 and 7 of the patent purportedly would have covered a JEDEC-compliant SDRAM that also incorporated certain dual-edge clocking proposals made at JEDEC.[20] Specifically, Complaint Counsel allege that Rambus=s duty to disclose the =327 patent was triggered by three presentations at JEDEC: (1) a presentation by William Hardell of IBM contained in the May 1992 minutes of the JEDEC 42.3 subcommittee (the AHardell presentation@), (2) a AFuture SDRAM Features Survey Ballot contained in the December 1995 minutes of the JEDEC 42.3 subcommittee (the ASurvey Ballot@), and (3) a

[20] Complaint Counsel also introduced testimony that claims 1 and 7 read on products built to the DDR SDRAM standard, but have failed to explain how this would trigger a disclosure duty on the part of Rambus, which left JEDEC over three years before the DDR SDRAM standard was first published.

presentation by Samsung entitled AFuture SDRAM,@ contained in the March 1996 minutes of the JEDEC 42.3 subcommittee (the ASamsung presentation@).[21] RPF 328.

As noted above, none of these three presentations ever rose to the level of a balloted proposal. Further, all three presentations were made before the =327 patent issued, so that Rambus could not have disclosed the =327 patent at the time of these presentations in any event. RPF 329. In any event, as demonstrated below, claims 1 and 7 of the =327 patent do not cover the technologies proposed in any of the three presentations.

In order to show that a claim covers a product, it is necessary to show that each and every element or Alimitation@ in the claim, or its substantial equivalent, is found

[21] In support of these allegations, Complaint Counsel rely solely on the testimony of their technical expert, Professor Jacob. Professor Jacob has no patents to his name and has never previously done any such claims analysis. Although in other instances, discussed below, Complaint Counsel introduced testimony from *both* Professor Jacob and their patent expert, Mr. Nusbaum, here they rely only on Professor Jacob. For whatever reason, Mr. Nusbaum did *not* testify whether in his opinion the claims of the =327 patent related to JEDEC work.

in that product. *See, e.g.*, *Wolverine World Wide v. Nike, Inc.*, 38 F.3d 1192, 1199 (Fed. Cir. 1994). Since none of those presentations ever reached the level of a concrete proposal, they did not need to specify how the features would actually be implemented, and they did not. Thus, the Hardell presentation states simply Adual clock edge,@ the Survey Ballot only that there was Amixed support@ for Ausing both edges of the clock for sampling inputs,@ and the Samsung presentation only that AData in sampled at both edge of Clock into memory.@ No further details of the implementation of dual-edge clocking were provided. RPF 334-50.

But, as Complaint Counsel=s technical expert, Professor Jacob, concedes, the =327 patent does not cover the broad concept of dual edge clocking B which is all that the vague presentations relied to by Complaint Counsel refer to B but only certain Aspecific implementations@ of dual edge clocking that satisfy all of the limitations recited in the claims.[22] RPF 335-36. Since these limitations are not in the three presentations raised by Complaint Counsel, the claims of the =327 patent do not cover those presentations. RPF 351-52.

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[22] The claims of the =327 cannot cover the Hardell presentation for another reason. The Hardell presentation related to IBM=s toggle mode DRAM, which was an asynchronous design. Unlike SDRAMs, in the Hardell presentation asynchronous RAS and CAS signals control the operation of the DRAM rather than a clock. Thus, it makes no sense to refer, as Complaint Counsel do, to a AJEDEC-complaint SDRAM that also incorporated dual-edge clocking as described in@ the Hardell presentation. The Hardell presentation described an entirely different asynchronous device. RPF 337-39.

2. Rambus Did Not Have Any Undisclosed Patent Applications During The Time It Was A JEDEC Member That It Should Have Disclosed[23]

The parties have stipulated that prior to the adoption of the JEDEC SDRAM standard in 1993, Rambus had no claims in any pending patent applications that, if issued, would necessarily have been infringed by the manufacture or use of any SDRAM device manufactured in accordance with the 1993 JEDEC SDRAM standard. RPF 361. Yet, Complaint Counsel contend that (a) Rambus had claims in patent applications that were filed after the 1993 SDRAM standard that Acovered@ that standard and thus should have been disclosed and (b) that presentations or discussions at JEDEC (that were not balloted proposals) had a sufficient relationship with claims in certain Rambus patent applications so as to require disclosure of those applications.

As with Complaint Counsel:s claim that Rambus should have disclosed the :327 patent to JEDEC, there are several independent reasons why the Court should reject Complaint Counsel:s argument that Rambus was obligated to disclose the claims of certain patent applications. First, overwhelming evidence demonstrates that under no

[23] **This section corresponds generally to RPF 361-96 and the factual support for the arguments in this section is set forth there in detail.**

circumstances were patent applications required to be disclosed. Second, Rambus=s disclosure obligation was limited by Mr. Crisp=s actual knowledge, and there is no evidence that he had actual knowledge of the specific claims in any of the patent applications that Complaint Counsel contend should have been disclosed. Third, there is not a sufficient nexus between the claims in question and the JEDEC work raised by Complaint Counsel B that is, the claims do not Aread on@ the presentations or standards alleged B to give rise to a duty to disclose. Finally, as discussed below, there are additional independent reasons that vary from application to application as to why those applications could not give rise to a duty to disclose.

a. Applications With Claims Allegedly Reading On The SDRAM Standard

Complaint Counsel allege that Rambus had two patent applications pending during the time that it was a JEDEC member with claims that allegedly read on the SDRAM standard and, therefore, should have been disclosed JEDEC: application serial nos. 07/847,961 (the =961 application) and 08/469,490 (the =490 application). In both cases, the claims raised by Complaint Counsel were pending only briefly in 1995, over a year after the SDRAM standard was published, before being cancelled.

(1) The ’961 Application[24]

First, Complaint Counsel raise Claims 151, 159, 160, 164, 165 and 168 of the ’961 application. (Nusbaum, Tr. 1544-45; Jacob, Tr. 5507, 5523-28), which were added to the ’961 application in an amendment filed on January 6, 1995 and cancelled on June 23, 1995. In an April 16, 1995 office action, the PTO had rejected all of the claims raised by Complaint Counsel and, in particular, had found that claims 151-165 were indefinite. (CX 1504 at 229). Since Complaint Counsel have made no showing of a duty (or a JEDEC practice) to disclose rejected and later cancelled claims, they have failed for this additional reason to prove that claims of the ’961 application were required to be disclosed to JEDEC. Indeed, no legitimate purpose would be served by a rule or practice that required disclosure of claims rejected by the PTO and later cancelled.

Furthermore, the Federal Circuit has concluded that the claims of the ’961 application would not read on a device built to the JEDEC SDRAM standard. (Fliesler, Tr. 8848-50). The Federal Circuit stated:

> This court has examined the claims of the cited applications as well as the relevant portions of the SDRAM standard.

[24] **The following discussion corresponds with RPF 363-65 and the factual support for the arguments in this section is set forth there in detail.**

> Based on this review, this court has determined that substantial evidence does not support the finding that these applications had claims that read on the SDRAM standard.

Infineon 318 F.3d at 1103. The Court further held that Aclaims in the =961 application were limited to the device identifier feature@ which is not Apresent in the SDRAM standard.@ *Id.*

Applying settled principles of claim construction, the Federal Circuit compared the language of claims in Rambus=s patent applications to the JEDEC standard and determined that Rambus did not have Aclaims that read on the SDRAM standard@ while it attended JEDEC. *Infineon*, 318 F.3d at 1103. As the Supreme Court has explained, the Federal Circuit=s construction of the scope of a patent claim (which would include claims in patent applications) is done as a matter of law and that construction is afforded *stare decisis*.

> AWe see the importance of uniformity in the treatment of a given patent as an independent reason to allocate all issues of construction to the [Federal Circuit] .Y It was just for the sake of such desirable uniformity that Congress created the Court of Appeals for the Federal Circuit as an exclusive appellate court for patent cases, H.R. Rep. No. 97-312, pp. 20-23 (1981)Y. [T]reating interpretive issues as purely legal will promote (though it will not guarantee) intrajurisdictional certainty through the application of *stare decisis* on those questions not yet subject to interjurisdictional uniformity under the authority of the single appeals court.@

Markman v. Westview Instruments, Inc., 517 U.S. 370, 390 (1996); *see also Key Pharms. v. Hercon Labs. Corp.*, 161 F.3d 709, 716 (Fed. Cir. 1998) (Federal Circuit decisions on claim construction have “national *stare decisis* effect”); *Wang Laboratories, Inc. v. Oki Electric Industry Co., Ltd.*, 15 F. Supp.2d 166, 175 (D. Mass 1998) (“District courts are bound to follow substantive patent law as decided by the Federal Circuit.”). Specifically, the Federal Circuit construes the scope of patent claims as a matter of law, without deference to the district court. *See Cybor Corp. v. FAS Techs., Inc.*, 138 F.3d 1448, 1456 (Fed. Cir. 1998). Therefore, in *Infineon*, the Federal Circuit established as a matter of law the scope of the claims of Rambus’s pending applications.

Thus, as a matter of law, this Court is bound by the Federal Circuit’s *Infineon* opinion regarding the scope of claims in Rambus’s patents and patent applications. Even if it were not so bound, however, this Court should defer on these issues to the expertise and primary jurisdiction of the Federal Circuit.

Finally, Complaint Counsel failed to prove that Rambus’s JEDEC representative, Mr. Richard Crisp, had actual knowledge of these claims, their scope and their relationship, if any, to the SDRAM standard.

(2) The ’490 Application[25]

The only other claims that Complaint Counsel allege should have been disclosed in connection with the SDRAM standard are claims 183, 184, and 185 of the ’490 application, which were added in a preliminary amendment filed on June 23, 1995.

[25] **The following discussion corresponds with RPF 366-70 and the factual support for the arguments in this section is set forth there in detail.**

After a restriction requirement from the patent office, Rambus elected to pursue other claims. Claims 183, 184 and 185 were withdrawn from further consideration as of November 27, 1995. Complaint Counsel have failed to prove the existence of a duty that would require disclosure of withdrawn claims.

Furthermore, as Complaint Counsel=s patent expert testified, claims 183, 184 and 185 of the =490 application are substantially similar to the claims in the =961 application which the Federal Circuit has held do not read on SDRAMs. Indeed, as the Federal Circuit held with respect to the claims of the =961 application, claims 183-185 are all limited to Rambus=s Adevice identifier@ feature because all contain the limitation that the semiconductor device outputting data (such as a DRAM) respond to requests Aspecifying the semiconductor device.@ In the =490 application (as in the C898 application to which it claimed priority), semiconductor devices are specified using the device identifier feature not found in SDRAMs. Because each and every limitation in the claims is not found in JEDEC-compliant SDRAMs, the claims do not cover those devices.

Here again, Complaint Counsel did not prove that Mr. Crisp had actual knowledge of these claims, their scope and their relationship to the SDRAM standard.

b. Applications With Claims Allegedly Covering Certain JEDEC Presentations

There are only two other applications that Complaint Counsel allege should have been disclosed by Rambus: application serial nos. 07/847,692 (the =692 application) and 08/222,646 (the =646 application). These applications are not alleged to cover any JEDEC standard, but instead are alleged to cover certain JEDEC presentations concerning on-chip PLL and dual-edge clocking. As with the =327 patent, the events that Complaint Counsel contend Atriggered@ a duty to disclose certain claims in patent applications were merely discussions or presentations, not ballot proposals, and thus could not create a disclosure duty under any circumstance.

(1) The =692 Application [26]

Complaint Counsel allege that claims 151, 152, 166 and 167 of the =692 application triggered a disclosure duty because they allegedly cover a September 1994 JEDEC presentation made by NEC regarding APLL enable mode.@

None of the four claims covers the presentation because each of the claims contains limitations that are not found in the presentation.[27] As just one example, each of the claims raised by Complaint Counsel calls for the generation of a local clock signal for Aperforming@ or Acontrolling@ memory operations with respect to the memory array. But, in the 1994 NEC presentation, by contrast, the internal clock signal (designated as AICLK@) controls the timing of an output buffer but does not perform or control operations with respect to the memory array. The ICLK signal generated by the PLL in

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[26] **The following discussion corresponds with RPF 371-78 and the factual support for the arguments in this section is set forth there in detail.**

[27] Also, the latter two claims were not yet pending at the time of the NEC presentation.

the NEC presentation cannot affect the timing of anything within the memory array. Thus, the claims of the =692 application do not read on the NEC presentation.

Further, Complaint Counsel failed to provide that Mr. Crisp had actual knowledge of these claims or of any relationship between them and the NEC presentation.

(2) The =646 Application[28]

Finally, Complaint Counsel allege that Claim 151 of the =646 application triggered a duty of disclosure on Rambus=s part because it allegedly covers the same presentations raised in connection with the =327 patent: the Hardell presentation, the Survey Ballot, and the Samsung presentation.

Claim 151 of the =646 application was filed on September 6, 1994, rejected by the PTO on January 24, 1995 for, among other reasons, being indefinite, and canceled by Rambus in an amendment filed on September 14, 1995. For these reasons alone, Complaint Counsel have failed to show there was any duty to disclose this claim. Further, claim 151 was not pending at the time of any of the supposedly triggering events B the Hardell presentation predated the filing of claim 151 by almost three years, and the survey ballot and the Samsung patent postdated the canceling of the claim B and thus there were no claims to disclose in connection with those presentations. Moreover, as discussed in connection with the =327 patent, the three presentations raised by

[28] **The following discussion corresponds with RPF 379-83 and the factual support for the arguments in this section is set forth there in detail.**

Complaint Counsel contain no implementation details; thus, they do not contain the implementation details that are *required* by claim 151 of the =646 application and serve to limit the scope of that claim. Claim 151 of the =646 application thus does not read on the presentations raised by Complaint Counsel.

Mr. Crisp, as noted earlier, was not shown to have had actual knowledge of claim 151 of the =646 patent, its scope or its purported relationsip to certain presentations.

G. Rambus Had No Duty To Make Any Disclosure With Respect To JEDEC=s DDR SDRAM Standard Because It Formally Withdrew From JEDEC Before Work Began On That Standard[29]

As the Court is well aware, Rambus attended its last JEDEC meeting in December 1995 and formalized or confirmed its withdrawal from JEDEC by a June 1996 letter. JEDEC=s work on the DDR SDRAM standard did not begin until, at the earliest, the summer of 1996. In fact, the great weight of the evidence supports the conclusion that work on the DDR SDRAM standard did not begin until December 1996. As Mr. Gordon Kelley, Chairman of the JC 42.3 subcommittee, explained (and there was no contrary evidence), after a company left JEDEC it had no duty to disclose anything to JEDEC. (Kelley, Tr. 2700). Thus, Rambus had no duty to disclose any intellectual property that might relate to the DDR SDRAM standard.

There was, however, some conflicting testimony as to when work began on DDR SDRAM. In his testimony at trial, Mr. Desi Rhoden testified that work on the DDR

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[29] **This section corresponds generally to RPF 397-416.**

SDRAM standard began well before Rambus left JEDEC. Some other recent testimony to the same effect also was elicited by Complaint Counsel. However, this recent testimony was in direct conflict with contemporaneous evidence and should therefore be given little if any weight.

For instance, in his written history of the DDR SDRAM standardization process, written in March 1998, Mr. Rhoden said,

> A[W]e could have finished the DDR standard sooner if only we had started earlier. Let us recap what has transpired with DDR:
>
> 1. A lot of private and independent work outside of JEDEC for most of 1996 (here is where we missed a good opportunity to start early).
>
> 2. December 96 B A single overview presentation of a DDR proposal at a JC 42 meeting.@

(CX 375 at 1). This written history is consistent with what Mr. Rhoden wrote earlier, in April 1997, when he said ADDR & SLDRAM were introduced in JEDEC in Dec 1996.@ (RX 911 at 3). *See also* RPF 407-408**.**

An IBM presentation on DDR SDRAM similarly describes work on DDR SDRAM as beginning in the time period from mid-June to mid-September 1996. (RX 892 at 1). The presentation also made clear that the initial work took place outside of JEDEC and that the first DDR SDRAM showing at JEDEC was the 1996 Fujitsu presentation. *Id*. A Mitsubishi chronology is to the same effect, placing private meetings outside of JEDEC in the summer of 1996 with the first JEDEC meeting related to DDR SDRAM occurring in December 1996. (RX 885A at 1). Rounding out the contemporaneous evidence, a July 1997 JEDEC ballot regarding the DDR SDRAM pinout stated that ADDR SDRAMs has been under discussion within JEDEC since September 1996.@ (RX 967 at 1). *See also* RPF 411-413.

This Court should conclude, as the *Infineon* trial judge and Federal Circuit unanimously concluded, that Rambus had ceased to be a JEDEC member before JEDEC began its work on the DDR SDRAM standard and thus had no conceivable disclosure obligations with respect to that standard. Judge Payne held that Asubstantial evidence did not support the jury=s verdict because Rambus withdrew from JEDEC before formal consideration of the DDR SDRAM standard.@ RPF 415; *Infineon*, 318 F.3d at 1105 (quoting Judge Payne). The Federal Circuit unanimously agreed:

> >[T]he disclosure duty, as defined by the EIA/JEDEC policy, did not arise before legitimate proposals were directed to and formal consideration began on the DDR-SDRAM standard. None of the evidence relied on by Infineon (e.g., survey ballot, technology proposals on the SDRAM standard) provides substantial evidence for the implicit jury finding that Rambus had patens or applications >related to= the DDR-SDRAM standard that should have been disclosed before the standard came under formal consideration.@

Id.

IV. JEDEC AND ITS MEMBERS WERE NOT MISLED BY RAMBUS, DID NOT RELY ON ITS ASILENCE,@ WERE AWARE THAT RAMBUS WAS SEEKING BROAD PATENTS THAT MIGHT COVER MANY FEATURES OF SDRAM AND DDR SDRAM, AND KNOWINGLY ACCEPTED THE RISK OF FUTURE PATENT INFRINGEMENT

A. Complaint Counsel Were Required To Prove That JEDEC Members Actually And Reasonably Relied On Rambus=s Silence, But Failed To Do So

Even if Complaint Counsel were able to prove that Rambus breached a duty to disclose information to JEDEC, Complaint Counsel must still prove that JEDEC members relied on that omission. Reliance is clearly an element of Complaint Counsel=s monopolization claims; it is a matter of causation. Just as it would be in a fraud or patent equitable estoppel case,[30] therefore, an antitrust claim based on misrepresentations or omissions requires proof of reliance.[31] For example, to prove monopolization based on a patent allegedly procured by fraud on the Patent Office, the plaintiff must make a A*clear showing of reliance, i.e.*, that the patent would not have issued but for the

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[30] A plaintiff making similar allegations in support of a fraud claim would have to prove that JEDEC and it members acted in reliance on Rambus=s alleged failure to disclose. *See Alicke v. MCI Communications Corp.*, 111 F.3d 909, 912 (D.C. Cir. 1997) (federal common law); *Bank of Montreal v. Signet Bank*, 193 F.3d 818, 827 (4th Cir. 1999) (under Virginia law, fraud by omission requires a showing that the accused knew Athe other party [was] acting upon the assumption that the [concealed] fact does not exist@) (internal quotation marks omitted). Similarly, a party asserting an equitable estoppel defense must Ashow that, in fact, it substantially relied on the misleading conduct of the patentee in connection with taking some action.@ *A.C. Aukerman Co. v. R.L. Chaides Cons. Co.*, 960 F.2d 1020, 1042-43 (Fed. Cir. 1992).

[31] *See, e.g.*, 2 H. HOVENKAMP, ET. AL., IP AND ANTITRUST ' 35.5, at 35-40 (2002) (stating that an antitrust plaintiff Amust establish that the standard-setting organization adopted the standard in question, and would not have done so but for the misrepresentation or omission@); 3 P. AREEDA, ET. AL., ANTITRUST LAW & 782b (2002) (antitrust allegation based on a misrepresentation Aimplicates the usual tort issues with respect to nondisclosure (when is there a duty to speak?), the distinction between fact and opinion, the knowledge or due care of the speaker, the actual degree of reliance by those allegedly deceived, and the reasonableness of any such reliance@).

misrepresentation or omission@ that A*cause[d]* [the] PTO to grant [an] invalid patent.@ *Nobelpharma AB v. Implant Innovations, Inc.*, 141 F.3d at 1070-71 (emphases added). Similarly, where an antitrust plaintiff claims that a defendant monopolized through false advertising, the courts require evidence that consumers are clearly likely to rely on the misrepresentations. *See, e.g., American Professional Testing Serv. v. Harcourt Brace Jovanovich Legal & Professional Publ=g*, 108 F.3d 1147, 1152 (9th Cir. 1997) (affirming judgment as a matter of law because of lack of reliance evidence).

Not only must Complaint Counsel prove actual reliance, but they also bear the burden to prove that reliance was reasonable. Again, this is an issue of causation. *See, e.g., Grubb v. Federal Deposit Ins. Corp.*, 868 F.2d 1151, 1162 (10th Cir. 1989) (AThe >justifiable reliance= requirement ensures that a causal connection exists between the misrepresentation and the plaintiff=s injury.@). Where a party had information available that put him on notice that the representations could not be trusted, reliance on those representations is not reasonable. *See, e.g., Hershey v. Donaldson, Lufkin & Jenrette Sec. Corp.*, 317 F.3d 16, 25 (1st Cir. 2003). Moreover, where a plaintiff has made an investigation, even a partial investigation, reliance on the misrepresentation is not reasonable. *See, e.g., Bank of Montreal v. Signet Bank*, 193 F.3d 818, 827 (4th Cir. 1999). Again, antitrust law is no different; antitrust cases based on misrepresentations require evidence that reliance would be reasonable. *See, e.g., American Professional*

Testing Serv., 108 F.3d at 1151 (requiring evidence that reliance would be reasonable); *In re Indep. Serv. Orgs. Antitrust Litig.*, 85 F. Supp. 2d 1130, 1158 (D. Kan. 2000) (same).

The record evidence shows that JEDEC did not rely on any omission by Rambus and that, if it had, such reliance would not have been reasonable.

B. JEDEC And Its Members Were Aware That Rambus Was Seeking Broad Patent Protection For Its Inventions

The record is replete with testimony that JEDEC members, indeed the entire DRAM and computer industries, were well aware that Rambus would be seeking the broadest possible patent protection and that its business model depended upon having broad, enforceable patents so that it would have a sound intellectual property base upon which to seek the payment of royalties. RPF 596-605. The evidence supporting this general proposition is largely uncontroverted, is laid out in detail in Rambus's Proposed Findings, and will not be repeated here.

C. JEDEC And Its Members Were Aware That Rambus Might Obtain Patent Claims Covering Features Being Considered For Standardization

The record evidence also compels the conclusion that JEDEC members and committee leaders were aware that Rambus might obtain patent protection for features being considered for incorporation into JEDEC standards. RPF 466-595.

1. The May 1992 JEDEC Meeting[32]

For example, in 1992 IBM and Siemens were concerned that the SDRAM design that JEDEC then was working on might be covered by Rambus patent claims. When listing the pros and cons of various alternative designs, one of the cons of the SDRAM design was that the A2-bank@ synchronous DRAM Amay fall under Rambus patents.@ These two companies also shared with each other their understanding that Rambus was seeking $10 million from Samsung due to the similarity of the SDRAM design with Rambus=s RDRAM architecture. In his *Infineon* trial testimony, Infineon=s Willi Meyer confirmed that, in 1992, he thought it was in fact possible that Rambus would obtain patents covering SDRAM. (Meyer, Trial Tr. 4/26/01, 44 (CX 2088)).

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[32] **This section corresponds generally to RPF 466-561.**

These concerns led an exchange at the May 1992 JEDEC meeting, instigated by IBM and Siemens, between Mr. Gordon Kelley of IBM and Mr. Crisp. Mr. Kelley asked Mr. Crisp if he cared to comment about whether Rambus had patents covering features of the SDRAM design then being discussed by JEDEC. Mr. Crisp responded by shaking his head, indicating that he did not want to comment. Contrary to Complaint Counsel=s contention that this exchange lulled JEDEC=s members into thinking Rambus did not have any patents that would cover this particular technology, it in fact was an unusual and surprising response, and one that was a Ared flag@ to the committee.[33] RPF 491-511.

At the same meeting, in fact, Mr. Crisp=s response led to a discussion of Rambus=s PCT (or WIPO) application. NEC=s Howard Sussman explained at the meeting that he had obtained a copy of that patent application, that it contained 150 claims, and that many of the claims, in his opinion, were barred by prior art. RPF 516-522. If, as

[33] There were many other Ared flags@ that singly and collectively put JEDEC and its members on notice that Rambus was seeking the broadest possible patent protection for its inventions and that the patents it was seeking might cover many of the features then being considered by JEDEC for inclusion in a DRAM standard. *See, e.g.*, RPF 466-595; 655-719.

Complaint Counsel contend, the JEDEC members in attendance at this meeting had understood Mr. Crisp=s silence to be an indication that Rambus did not have any patent claims that might cover the SDRAM standard, then there would have been no reason to discuss the WIPO application or Mr. Sussman=s views on the likely validity of the claims in that application.

Further evidence that the JEDEC members in attendance at the May 1992 meeting were not Alulled@ by Mr. Crisp declining to comment can be found, for example, in documents written just after the meeting in which the authors express a continuing concern about the scope of Rambus=s patent claims. RPF 522-528.[34]

2. JEDEC Member Awareness Of Rambus=s Potential Patent Claims Continued Past May 1992, With JEDEC Members Continuing To Believe That Broad Claims Would Not Be

[34] Although discussed earlier in this brief, it is worth reemphasizing that if the JEDEC members and leadership in attendance at the May 1992 meeting had thought Rambus was obliged to disclose its patent applications if they Aread on@ or Arelated to@ the SDRAM standard then under discussion, they would not have accepted Mr. Crisp=s position that he would not comment. Rather, they would have insisted on a response and one would expect that the various recollections of that meeting, the notes taken at the meeting, the trip reports written after the meeting and the minutes of the meeting itself would have made some reference to Rambus=s failure to comply with what Complaint Counsel contend were the Acommonly known@ JEDEC disclosure rules. Instead, there is no mention of any such disclosure obligation or of Rambus=s Aviolation@ of the rules. Rather, the documents uniformly reflect that Mr. Crisp=s silence reinforced a pre-existing concern that Rambus might obtain patent claims that would cover SDRAM, tempered by guarded optimism that prior art might invalidate or substantially narrow any patents Rambus obtained.

Allowed Or, If They Were, That They Would Be Invalid Based On Prior Art[35]

After May 1992, Rambus informed JEDEC as a group, as well as numerous individual JEDEC members, about its potential intellectual property claims, and concerns about the broad scope of Rambus=s potential claims were raised again and again by JEDEC members. In a recurring pattern, however, the concerns were repeatedly dismissed on the grounds that such broad claims would not be valid in light of the prior art.

For example, Rambus=s disclosure of its first issued patent to JEDEC prompted a further discussion of Rambus=s PCT application at a JEDEC meeting in September 1993. Mr. Willi Meyer of Siemens testified that the PCT application was characterized at that meeting as Aa collection of prior art.@ (A few months later, Mr. Meyer said, AAll computers will (have to be) built like this some day, but hopefully without royalties to Rambus.@) RPF 530-34.

At the May 1995 JEDEC meeting, Rambus=s representative was asked whether Rambus held any patents that would apply to a proposed memory technology known as SyncLink. In August 1995, Rambus warned the SyncLink working group

[35] **This section corresponds generally to RPF 523-59.**

(which consisted entirely of JEDEC member companies and consisted largely of JEDEC representatives from those companies) that its work might infringe Rambus=s intellectual property. In response, some of the SyncLink participants opined that a predecessor of SyncLink known as RamLink would serve to invalidate any of Rambus=s patent claims that were broad enough to cover SyncLink. RPF 536, 540-42.

At the September 1995 JEDEC meeting, Rambus responded to the question that had been posed at the prior meeting in a written statement that was appended to the minutes of the meeting. First, Rambus hastened to make clear that, to the extent that SyncLink was relying on invalidating Rambus=s patents using the RamLink prior art, it would not succeed because Rambus=s work predated RamLink. In the statement, Rambus elected not to make Aa specific comment on our intellectual property position relative to the SyncLink proposal.@ Rambus stressed, however, that Rambus=s Apresence or silence@ at JEDEC meetings does not Amake any statement regarding potential infringement of Rambus intellectual property.@ Rambus=s statement was interpreted as a warning that there should be concern about Rambus=s intellectual property. In this time frame, Rambus also directly informed a number of JEDEC members that it expected to obtain broad claims that could cover SyncLink as well as SDRAM. RPF 543-48.

Concerns over the scope of Rambus=s intellectual property prompted investigations of Rambus=s patents in the mid-1990s by a number of companies including Mitsubishi and Micron. Mitsubishi believed that it had found prior art from Cray

Corporation while Micron noted the RamLink prior art. David Gustavson, the Secretary of the SyncLink Consortium testified that he reviewed Rambus=s European patent applications in that time period and came to the conclusion that they had broad scope, but would not be allowed due to their breadth. RPF 555-59, 562-95..

In a presentation to Samsung in 1994, Dr. Betty Prince summed up the prevailing view as follows: AMany of the large systems houses believe that Rambus patents are challengeable by previous internal work and/or patents. The early concern about the impact of the Rambus patents on the major systems houses seems to have diminished considerably.@ (RX 2153 at 10); *see also* RPF 774-75.

3. The Concern Of JEDEC Members Regarding The Scope Of Rambus=s Patent Claims Continued Even After Rambus Left JEDEC[36]

In June 1996, Rambus confirmed its withdrawal from JEDEC and warned JEDEC that, in addition to its issued patents, Rambus had Aapplied for a number of additional patents in order to protect Rambus technology.@ RPF 560.

Even after Rambus=s withdrawal, JEDEC members continued to be concerned about and to investigate Rambus=s intellectual property. The extent of

[36] **This section corresponds generally to RPF 562-95.**

Micron=s investigation is unclear because Micron has claimed privilege over various documents relating to ARambus patents,@ but a December 1996 memorandum indicates that Micron had been investigating Rambus=s patents Afor some time now,@ and reached the conclusion that Amany Rambus patents read on prior art or other patents.@ Moreover, it is clear that by early 1997 Micron was well aware that Rambus might have claims that are broader than RDRAM and that might read on DDR SDRAM. For example, Terry Lee of Micron raised Rambus=s patents at the March 1997 JEDEC meeting in connection with an NEC proposal on DDR SDRAM, even though the proposal did not involve the bus architecture described as a preferred embodiment in Rambus=s =898 patent application. In fact, Micron=s internal e-mails from April 1997 reflect an understanding that ARambus feels DDR for any memory is under their patent.@ The e-mails indicate that this information came from Intel. Terry Walther, Micron=s JEDEC representative, indicated, however, that in his view Rambus was trying to claim Aold technology.@ RPF 564-85.

Other companies also continued to track Rambus=s patents. For example, Mitsubishi maintained a chart to which it added Rambus patents as they issued. The chart included Rambus=s =327 patent which issued on April 30, 1996 and was mistakenly omitted from the list attached to the letter confirming Rambus=s withdrawal from JEDEC. An August 1996 memorandum indicates that, by this time, Mitsubishi was aware that Rambus was seeking or had patents relating to dual clock edge. RPF 693-702. Likewise, in July 1998, a Hynix executive sent an e-mail containing a list of Rambus patents, including the =327 patent, to DRAM engineers and JEDEC representatives from various companies including Micron, Texas Instruments, IBM, VLSI, Compaq, Mosaid and Siemens.   RPF 592-93.

4. Rambus=s Early Disclosures Of Its Inventions And Technology Gave Notice That Rambus Might Succeed In Obtaining Patent Protection For The Four Features In Question[37]

From Rambus=s earliest days, DRAM manufacturers and others were put on notice of the nature of Rambus=s inventions, including the four features at issue here. In 1989-90, Drs. Farmwald and Horowitz began visiting DRAM manufacturers and systems companies to try to interest them in Rambus technology. These earliest presentations disclosed the four features at issue. Interested parties, such as Siemens, received technical descriptions that described Rambus=s technology, including the four features at issue, in detail. RPF 614-37.

In October 1991, Rambus=s PCT application was published. As noted above, JEDEC members quickly obtained copies. The PCT application, which is identical in all material respects to Rambus=s original C898 application, clearly discloses

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[37] **This section corresponds generally to RPF 596-719.**

the four features at issue. Complaint Counsel argue that a DRAM engineer would not have recognized from reviewing the PCT application that Rambus could claim the four features independently of the particular Anarrow, multiplexed, bus@ disclosed in the application. Complaint Counsel=s theory is belied by the evidence, however. Indeed, the evidence shows that Mitsubishi obtained the PCT application in 1993 and soon recognized the importance of the inventions it disclosed and the possibility that Rambus might be able to claim the inventions individually. Later Mitsubishi documents relating to the analysis of the PCT application show a recognition that Rambus might be able to obtain claims on some of the very features at issue here, such as programmable latency as used in SDRAMs. RPF 659-702.

Complaint Counsel=s argument is also contradicted by the fact that, as Complaint Counsel concede, Rambus has now obtained patents claiming priority to the C898 application that would cover devices containing the four features at issue and that do not include limitations restricting the scope of the claims to a narrow, multiplexed, packetized bus. It follows that the PTO has determined that such broad claims are supported by the original C898 application, that is, that a person of ordinary skill, such as a DRAM engineer, would recognize from reviewing the C898 application that Rambus was in possession of the broad inventions later claimed. RPF 703-05. In particular, the PTO has determined that there are no elements missing from the claims that a person of ordinary skill in the art reviewing the C898 application would regard as essential. Manual of Patent Examining Procedure C 2163(I)(B).

After the PCT application was published, Rambus disclosed its key inventions in numerous other public documents, including marketing brochures and papers about the first RDRAM. RPF 638-54.

In September 1993, Rambus=s first United States Patent was issued. The C703 patent, like the PCT application, claims priority to the filing date of the C898 application and its specification is identical in all material respects to that of the C898 application, including a clear description of the four features at issue. Moreover, although under no legal obligation to do so, Rambus listed in the C703 patent the nine other divisional applications of the C898 application that were then pending, clearly disclosing to the world that Rambus was actively pursuing a number of the inventions in the C898 application. RPF 714-19.

V. JEDEC CHOSE THE FOUR FEATURES IN QUESTION BECAUSE THEY WERE THE ABEST@ FEATURES AND BECAUSE THERE WERE NO ACCEPTABLE ALTERNATIVES[38]

Given the evidence that JEDEC members were concerned that Rambus might obtain patents that would cover many of the features JEDEC was incorporating into SDRAM and DDR, it is fair to ask why they sought to include these features, particularly

[38] This section corresponds generally to RPF 720-1258.

in light of the alternatives that Complaint Counsel contend were readily available. Complaint Counsel contend it is because, in violation of JEDEC=s rules, Rambus did not disclose additional information about its pending patent applications or its intentions to amend or file future patent applications. Had Rambus only made these additional disclosures, Complaint Counsel allege, JEDEC would have turned to alternatives. In other words, Complaint Counsel contend that in the Abut-for@ world where Rambus made these additional disclosures, JEDEC would have avoided Rambus=s technologies.

To support this claim, Complaint Counsel attempted to elicit testimony from JEDEC representatives that, if Rambus had made these additional disclosures, the representatives would have voted for alternatives to Rambus=s technologies. This effort met with little success. For instance, when Complaint Counsel put this question to HP=s JEDEC representative, Tom Landgraf, he testified that he would still have voted for the Rambus technologies had Rambus indicated a willingness to abide by the JEDEC licensing policy. RPF 1241; (Landgraf, Tr.1714). Similarly, the chair of JC 42.3, Gordon Kelley of IBM, testified that had Rambus made these disclosures and offered to license according to the JEDEC policy, he Awould have had to consider accepting their intellectual property.@ RPF 1240; (Kelley, Tr.2072).

But far more important than this after-the-fact speculation by interested parties is what actually happened in the real world, and particularly whether the so-called alternatives were actually viable. The evidence shows that JEDEC repeatedly selected

Rambus=s technologies over all others, even after Rambus obtained issued patents covering the technologies and demanded royalties for their use. The evidence also shows that Rambus=s technologies were superior to any noninfringing alternatives proposed by Complaint Counsel. In addition, the evidence shows that the economic incentives of both JEDEC and Rambus would have led to the same outcome B JEDEC adopting the Rambus technologies in the SDRAM and DDR standards B even if Rambus had made the additional disclosures that Complaint Counsel contend were required.

Independently, these three lines of evidence lead to the same conclusion B the alleged conduct of which Complaint Counsel complains made no difference. Had Rambus made the additional disclosures that Complaint Counsel assert should have been made, JEDEC would still have adopted Rambus=s technologies. The but-for world is, in fact, the same as the actual world.

A. JEDEC Repeatedly Chose Rambus=s Technologies, Even When Warned Of Rambus=s Potential Patents, And Even After Rambus Began To Assert Its Patents[39]

1. JEDEC Chose Rambus=s Technologies Over All The Alternatives For SDRAM and DDR

While Complaint Counsel point to various proposed alternatives that they contend JEDEC might have selected in place of the Rambus technologies, the evidence shows that during the course of standardizing SDRAM and DDR, JEDEC considered but

[39] **This section corresponds generally to RPF 724-84.**

rejected these alternatives. For SDRAM, JEDEC selected two of the four Rambus technologies at issue: programmable CAS latency and programmable burst length. In the process of developing the SDRAM standard, JEDEC considered and rejected many of the alternatives that Complaint Counsel now assert JEDEC could have adopted in place of the Rambus technologies. RPF 746-58 With regard to this selection process, Gordon Kelley, the chair of 42.3, testified that JEDEC considered the available technologies and selected what was considered to be the best. RPF 727 ; (Kelley, Tr. 2707-09).

Similarly, when developing the DDR standard, JEDEC considered but rejected alternatives to Rambus=s technologies. For DDR, JEDEC selected all four of the Rambus technologies at issue: programmable CAS latency, programmable burst length, dual-edge clocking, and on-chip PLL/DLL. Just as with the SDRAM standard, for the DDR standard JEDEC considered and rejected several alternatives to the Rambus=s technologies that Complaint Counsel now assert JEDEC would have adopted in place of the Rambus technologies. RPF 728-63.

What does this evidence tell us about the but-for world? As Drs. Rapp and Teece testified, economists use evidence of real-world choices to draw inferences about preferences and use those preferences to infer what choices would be made in a but-for world. RPF 724-25. This is the doctrine of Arevealed preference,@ which boils down the common sense notion that Ayou shouldn=t listen to what people say, you should look to what they do.@ (Teece, Tr. 10366). Applying this doctrine shows that Rambus=s technologies were superior to the alternatives. RPF 724-27. The evidence that JEDEC chose Rambus’s technologies over the alternatives shows that in the but-for world JEDEC would choose Rambus’s technologies absent something that would upset its preferences. That is, the evidence of JEDEC selecting Rambus’s technologies in the real world creates a presumption that JEDEC also would do so in the but-for world.

Complaint Counsel’s theory, therefore, must be that additional disclosures by Rambus would have overturned JEDEC’s revealed preference for Rambus’s technologies. This, of course, assumes that JEDEC was not aware of the potential that Rambus might obtain patents that covered these technologies. As discussed above, this assumption is contrary to the evidence. But even if the assumption were correct, it would not undermine the application of the theory of revealed preference. Rebutting Complaint Counsel’s theory is the evidence that JEDEC chose the very same Rambus technologies for the DDR2 standard fully aware of Rambus’s issued patents and Rambus’s demands for royalties. *See* RPF 731-63.

2. After Searching For Alternatives, JEDEC Chose All Four Rambus Technologies For DDR2 With Full Knowledge of Rambus’s Issued Patents

JEDEC’s choice to incorporate the Rambus technologies into the DDR2 standard, despite full awareness of Rambus’s issued patents, demonstrates that JEDEC would have adopted Rambus’s technologies in the but-for world.

The JEDEC Future DRAM Task Group began work on the DDR2 in April 1998, but as of May 2003 the standard had not yet been published. Early in this period, in late 1999, Rambus began asserting its patents against JEDEC-compliant SDRAM and DDR products that incorporated the technologies at issue in this case. This was widely publicized and well-known in the industry. JEDEC=s development of the DDR2 standard therefore continued in the face of this knowledge. RPF 732-38.

Although JEDEC=s design philosophy for DDR2 was to borrow as much as possible from other technologies, the evidence shows that JEDEC did not have to use the Rambus technologies in DDR2 merely because they were used in SDRAM and DDR. Rather, from the very start, the Future DRAM Task Group seriously considered basing its work on architectures that were entirely different from DDR. Though the Task Group eventually elected to base its design on DDR, these other proposals received substantial support. RPF 739-63. Had there been some technological or economic impediment to using different architectures, it is unlikely that the Task Group would waste its time examining other proposals.

Not only did JEDEC consider entirely different architectures, the evidence shows that it also considered specific alternatives for each of the four Rambus technologies. In late 1998, the Task Group commissioned HP to explore alternatives to on-chip DLL and IBM to explore alternatives to Rambus=s programmable burst length technology. The Task Group later considered proposals to eliminate on-chip DLL in

DDR2, but those proposals were apparently rejected; the Task Group elected to adopt the on-chip DLL technology. RPF 740-44.

The search for alternatives to Rambus's technologies continued after Rambus began to assert its issued patents. Steve Polzin of AMD testified that he had discussions with DRAM manufacturers in 2000 about alternatives to programmable CAS latency, programmable burst length, and dual-edge clocking. RPF 747; (Polzin, Tr.3988, 3996, 4044). Although Mr. Polzin understood at the time of these discussions that Rambus patents covered these technologies, he admitted that the DDR2 standard still specifies programmable CAS latency, programmable burst length, and dual-edge clocking, and that the alternatives he considered were not adopted. *Id*.; (Polzin, Tr. 4044-48).

JEDEC considered but rejected specific alternatives for programmable CAS latency. In March and April 2000, after Rambus had begun asserting it patents, JEDEC considered a Micron presentation proposing several alternatives for programmable CAS latency in SDRAM, DDR, and DDR2. In response to these proposals, Bob Fusco at Hitachi wrote, "For DDR-2, we have no legacy to live with, so I like the Micron proposal. For DDR-1 it's not too late for minor, carefully considered changes, so I'm open to either proposal." Bill Hovis of IBM, however, rejected the proposals regarding alternatives to programmable CAS latency because of cost concerns. Mr. Hovis similarly insisted that

DDR2 retain programmable CAS latency, even though he was Anot currently locked in.@ RPF 749-51.

Similarly, in July 2000, Micron made a presentation entitled, APin Selectable Posted CAS for DDR II (JEDEC- July 2000- Kevin Ryan).@ The proposal included alternatives for programmable CAS latency, including using multiple pins Ato select specific latency values.@ RPF 752.

JEDEC also tried to find viable alternatives to Rambus=s dual-edge clocking technology. There is direct testimony that the reason the JEDEC committee was looking at alternative clocking schemes was to avoid Rambus patents. RPF 759-63. At the September 2000 JEDEC meeting, Micron made a proposal that DDR2 incorporate single data rate technology instead of dual-edge clocking. In a November 2000 conference call, committee members discussed going to a single data rate (ASDR@) technology. The evidence shows that there was a consensus to adopt the technology in place of dual-edge clocking Aif it works@: ASingle data rate clock is preferred provided we can make it work.@ RPF 760-62.

JEDEC adopted and then abandoned an alternative for Rambus=s programmable burst length technology. The preliminary DDR2 specification, published in July 2001, specified a fixed burst length of 4. After that specification was published, both AMD and Intel proposed to change the DDR2 specification to add programmable burst length. At the September 2001 JC 42.3 meeting, Intel proposed that DDR2 have burst length of 8 in addition to 4. At that same meeting, AMD also proposed the addition of a burst length of 8. According to Intel, adding a burst length of 8 would result in a A[p]otential improvement of 4-10% on high-bandwidth applications.@ The vote to ballot this proposal was unanimous. RPF 754-58 .

Despite all of this effort, JEDEC adopted each of the four Rambus technologies in the DDR2 standard.

This evidence supports two important inferences. First, JEDEC was not bound to use the Rambus technologies in DDR2 by its choice to use them in DDR. While Complaint Counsel elicited some testimony that DDR2 incorporated the technologies because of technological constraints, the evidence undermines this notion. It makes no sense, if there were such a technological restraint, that JEDEC would spend so much time examining alternatives. Moreover, the absence of any technical constraint is illustrated by the fact that JEDEC at first selected an alternative to Rambus=s programmable burst length technology, but in September 2001 elected to adopt Rambus=s technology.

Second, given that JEDEC could have adopted alternatives in DDR2, this evidence shows that additional information about Rambus=s patent interests would not have caused JEDEC to adopt alternative technologies. In other words, the additional disclosures that Complaint Counsel contend should have been made would not have upset JEDEC=s revealed preference for the four Rambus technologies. JEDEC has demonstrated in the real world that additional knowledge of Rambus=s patent interests does not lead it to stop using Rambus=s technologies.

While this evidence alone supports the conclusion that JEDEC would have adopted Rambus=s technologies in the but-for world, it is fair to ask why JEDEC rejected the alternatives in the face of Rambus=s issued patents. The evidence supports two inferences. First, as discussed above, JEDEC members were convinced that Rambus=s patents would be invalidated by prior art. *See*, e.g., RPF 764-83. With regard to DDR2, the evidence shows that these beliefs specifically motivated JEDEC. Mark Kellogg of IBM testified, for example, that after he examined Rambus=s patents in 2001, he believed that there was prior art to Rambus=s patents and he conveyed his opinion to other DRAM manufacturers. According to Mr. Kellogg, the DRAM manufacturers Awere considering the fact that some of the Rambus patents might be overturned@ when making decisions about whether to try to design around Rambus patents. RPF 766. Second, the natural inference from JEDEC=s selection of Rambus=s technologies is that they were superior to the alternatives. In fact, the evidence shows this to be the case.

B. Complaint Counsel Have Not Met Their Burden To Prove There Existed Were Acceptable, Noninfringing Alternatives To Rambus=s Technologies

Complaint Counsel=s case turns critically on the existence of acceptable, noninfringing alternatives that JEDEC could have and would have adopted in the but-for world. If there were no such alternatives, any market power Rambus may have was created not by Rambus=s alleged wrongful conduct but by the superiority of the technologies covered by its patents. *See, e.g.*, 2 H. HOVENKAMP, ET. AL., IP AND ANTITRUST, ' 35.5, at 35-43 (2003) (Aif the patent is one that actually confers an economic monopoly because of the absence of feasible noninfringing alternatives, it is the patent itself B not the patentee=s failure to disclose it to the standard-setting organization B that restricts competition in the market@).

This means that, in order for Complaint Counsel to show that Rambus=s alleged conduct had any market impact, Complaint Counsel must prove that there was an available and acceptable noninfringing alternative for *both* of the necessary SDRAM technologies and for *all four* of the necessary DDR SDRAM technologies. Simply asserting that an alternative was available, acceptable, and noninfringing is not enough. AMere speculation or conclusory assertions will not suffice@; rather, there must be Aconcrete factual findings@ sufficient to support an inference an acceptable alternative was in fact available. *Grain Processing Corp. v. American Maize-Products Co.*, 185 F.3d 1341, 1353 (Fed. Cir. 1999). To meet their burden, Complaint Counsel had to prove that there were acceptable, noninfringing alternatives that were Aequal or superior@ to Rambus=s technologies.

At trial, both Complaint Counsel and Rambus presented evidence concerning a number of supposed alternatives for each of Rambus=s technologies. This evidence is summarized in Rambus=s Proposed Findings at Section IX.B, RPF 785-1146.

While the evidence is intricate in its detail, it can be summarized thus: Each of Complaint Counsel=s proposed alternatives suffers from one or more of the following defects: it is too costly; it lacks the necessary performance; or it is covered by patents of Rambus or others. In short, Complaint Counsel failed to meet their burden to show that there were available and acceptable noninfringing alternatives to Rambus=s technologies.

First, Complaint Counsel failed to prove that their proposed alternatives were noninfringing. To be acceptable, an alternative must be Anoninfringing,@ *i.e.*, it would have to avoid both Rambus=s patents and other companies= patents. Complaint Counsel=s economic expert admitted as much. RPF 1123. *See, e.g.*, Complaint Counsel=s Memorandum in Support of Motion to Dismiss the Complaint, *In the Matter of VISX, Inc.*, Dkt. No. 9286 (AComplaint Counsel *VISX* Br.@), pp. 6-7 (requesting dismissal of complaint seeking to enjoin enforcement of patent allegedly procured by fraud because Respondent received new patent Athat will give [Respondent] monopoly power in the technology market and market power in the apparatus market to the same extent as the old one@).

Complaint Counsel did not make any effort to bear this burden. For not one of their proposed alternatives did Complaint Counsel produce a shred of evidence that it was noninfringing. Even when Rambus produced evidence that other patents affected various of the supposed alternatives, Complaint Counsel made no effort to controvert this evidence.   RFP 1123-24. At the outset, then, Complaint Counsel failed to meet their burden.

Second, Complaint Counsel failed to prove that their proposed alternatives were equal or superior to Rambus's technologies terms of performance. The evidence from industry participants, contemporaneous documents, and expert testimony shows that each of Complaint Counsel's alternatives had drawbacks when compared to the Rambus technologies. RPF 794-1146. This is not surprising; the evidence shows that in many instances it was exactly these drawbacks that led JEDEC to select the Rambus technologies in the first instance.

Third, Complaint Counsel failed to prove that any combination of the alternatives was not more costly than using the Rambus technologies (even accounting for Rambus's royalty) in SDRAM or in DDR products. In fact, Complaint Counsel offered *no* cost data or estimates of the costs for any of their proposed alternatives. Rambus, on the other hand, provided detailed expert testimony that estimated the additional costs that each of Complaint Counsel's proposed alternatives would impose. In addition, Rambus demonstrated that no combination of noninfringing alternatives was less costly than Rambus's technologies, even with royalties included. In other words, putting performance issues aside completely, the evidence showed that DRAM manufacturers and consumers are better off using Rambus's technologies and paying Rambus royalties than they would be using any of the alternatives proposed by Complaint Counsel. *Id*.

Rational JEDEC members thus would have selected the Rambus technologies even with full knowledge that they would have to pay royalties to Rambus.

In sum, Complaint Counsel failed to show that there were acceptable, noninfringing alternatives to Rambus's technologies.

C. Complaint Counsel Failed To Prove That JEDEC Would Have Adopted Alternative Technologies Even If Rambus Had Made The Disclosures Complaint Counsel Envision[40]

Even if there were acceptable, noninfringing alternatives, Complaint Counsel must still prove that JEDEC would have adopted the alternatives in the but-for world. As discussed above, the fact that JEDEC chose to incorporate Rambus's inventions, even after Rambus began to assert its issued patents, shows that JEDEC's revealed preference for Rambus's technologies would not change in the but-for world. An entirely separate body of evidence also confirms this to be the case.

Professor Teece's decision tree analysis demonstrated that, had Rambus made the additional disclosures Complaint Counsel assert should have been made, the same outcome as occurred in the real world would have occurred in the but-for world — JEDEC would have incorporated the Rambus technologies into its standards.

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[40] **This section corresponds generally to RPF 1147-1245.**

1. Had Rambus Disclosed, JEDEC Might Have Proceeded Without Seeking A RAND Assurance From Rambus

The analysis begins with the question, what would JEDEC have done had Rambus made these additional disclosures? JEDEC first would have had to decide whether to request a RAND letter. RPF 1158. If JEDEC had not asked Rambus for a RAND letter, both Rambus’s and Complaint Counsel’s economic experts testified that JEDEC would have adopted Rambus’s technologies despite the additional disclosures. RPF 1163.

There are a number of reasons why JEDEC might not have asked Rambus for a RAND letter. First, JEDEC might have perceived that Rambus was trying to derail the standard-setting process by gaming the system. RPF 1159. That is, JEDEC might have believed that Rambus was asserting that it had patent rights in order to provoke JEDEC into seeking a RAND letter so that Rambus could refuse to give the letter, thereby stopping or slowing the standardization process and thereby benefiting RDRAM.

Second, JEDEC might not have asked for a RAND letter because of a belief that Rambus would not obtain patents that would cover products complying with the JEDEC standard. For example, JEDEC might have believed that Rambus’s patent applications would not result in issued patents or, if they did, that the patents would not be valid because of prior art. RPF 1160.

Third, JEDEC might not have asked for a RAND letter from Rambus because, in the real world, JEDEC did not seek a RAND assurance from Rambus regarding SDRAM or DDR, despite JEDEC=s knowledge of Rambus=s patents. RPF 1161.

The possibility that JEDEC would not seek a RAND letter based on these factors is not mere speculation. There was, in fact, a real-world example in the 1995-1996 time frame where an EIA standards body did not request a RAND letter despite an assertion by a member that it possessed a patent relating to the standard. The EIA committee did not seek a RAND assurance because it believed the member was gaming the system. In that case, Echelon gave notice to the Consumer Electronics Association (ACEA@) that it had an issued patent that might cover a technology included in a CEA standards proposal. At the time, Echelon was promoting its own technology in competition with technology included in the standard. EIA General Counsel John Kelly was personally involved in the Echelon situation, and he testified that RAND assurances were not sought from Echelon because Ait appeared to us at the time . . . that Echelon was deliberately trying to impede the process, to stall it out for its own purposes . . . .@ In other words, Mr. Kelly believed that if a request for RAND assurances was made to Echelon, Echelon would refuse to give those assurances, and the standardization process would necessarily come to a stop.

The Echelon case thus provides insight into how JEDEC might have reacted if Rambus had announced that its patent applications might relate to features under consideration for inclusion in the SDRAM or DDR standards. Indeed, there are striking parallels: (1) Rambus, like Echelon, was promoting its own memory device in competition with the JEDEC standard device; (2) JEDEC representatives expressed the view that Rambus=s patents, if they issued, would be barred by prior art; and (3) the chair of the SyncLink standards committee believed that Rambus was trying to Atorpedo@ the SyncLink standard by asserting invalid IP claims. RPF 1171-82.

There thus is a strong possibility that the JC 42.3 committee would have been concerned that Rambus was trying to Agame@ the system and, for that reason, would not have sought a RAND assurance.

2. If JEDEC Had Sought A RAND Assurance, It Would Still Have Adopted Rambus=s Technologies[41]

If JEDEC had requested a RAND letter, Rambus would have provided it and JEDEC would have proceeded to adopt Rambus=s SDRAM and DDR technologies.

a. Rambus Would Have Given A RAND Assurance

[41] **This section corresponds generally with RPF 1183-1244.**

The economic evidence shows that had Rambus made the additional disclosures Complaint Counsel contend should have been made, it would have been in Rambus=s economic interests to give a RAND letter. RPF 1184-1203. Simply put, as Professor Teece pointed out, in the but-for world Rambus would have a lot to gain and little to lose by giving a RAND letter. Once it had made the additional disclosures, it gave up any benefit from keeping information about its pending or future patents applications confidential. As a pure-play technology company dependent on licensing for its revenues, it would have strong economic incentives to give the RAND letter because doing so would increase the likelihood that it would earn licensing revenues. This incentive would be even stronger if there were good alternatives to Rambus=s technologies. (Teece, Tr. 10340-47).

b. There Would Not Have Been Any *Ex Ante* Negotiations

Complaint Counsel=s economic expert testified that once Rambus issued a RAND letter, JEDEC members would have an Aincentive@ to engage in *ex ante* negotiations, *i.e.*, to negotiate with Rambus prior to the adoption of Rambus=s technologies into the SDRAM and DDR standards. These negotiations necessarily would have occurred before Rambus=s patents issued. Complaint Counsel, however, have produced no evidence that similar negotiations B *i.e.*, negotiations for a naked license to a patent application B have ever occurred. To the contrary, as the uncontested evidence shows, such negotiations would be difficult and costly, and therefore unlikely. Complaint Counsel's expert effectively conceded as much. RPF 1204-18

c. JEDEC Would Have Adopted Rambus's Inventions With Rambus's RAND Assurance

With a RAND letter from Rambus in hand, JEDEC would have been faced with the decision of incorporating Rambus's technologies or seeking alternatives. The evidence shows that JEDEC would have adopted Rambus's technologies. First, the alternatives were inferior, even when taking into account Rambus's royalties. Second, with a RAND letter, there is little to upset JEDEC's revealed preference for Rambus's technologies. Third, the evidence shows that JEDEC has been willing to adopt patented technologies, and it would likely do the same thing with Rambus's technologies. RPF 1219-20.

In fact, the record is replete with examples of JEDEC incorporating technologies into its standards despite patent issues. JEDEC adopted the on-chip PLL/DLL technology for DDR knowing that Mosaid had a patent on the technology. The JC 42.3 meeting minutes show that during the period from May 1990 through the end of 1995, patented technology, or potentially patented technology was proposed to JC 42.3 for standardization on at least a dozen occasions, and in each instance the technology was balloted and the ballot passed. On at least seven of these occasions, this occurred without any request for or receipt of a RAND assurance letter. RPF 1220-38.

The evidence shows that, had Rambus provided a RAND assurance, JEDEC surely would have adopted its technologies. Consistent with JEDEC=s actual conduct, several JEDEC members testified that JEDEC, upon receipt of a RAND letter from Rambus, would not have pursued alternatives. *E.g.*, RPF 1239-41.

* * * * *

In sum, the most likely scenario is the one in which JEDEC asks for and receives a RAND assurance from Rambus, no *ex ante* negotiations take place, and JEDEC incorporates Rambus=s technologies in both SDRAM and DDR. Accounting for that scenario and the possibility that JEDEC might proceed without asking for a RAND letter, it is a virtual certainty, had Rambus made the additional disclosures that Complaint Counsel allege should have been made, that JEDEC would have adopted the same standards in the but-for world that it adopted in the actual world. RPF 1245.

VI. JEDEC IS NOT ALOCKED IN@ TO THE FOUR FEATURES AND, IF THERE WERE VIABLE ALTERNATIVES, JEDEC COULD SWITCH TO THEM EVEN NOW[42]

Complaint Counsel try to explain the failure of JEDEC and its members to adopt any of the supposed alternatives that Complaint Counsel proffer by contending that the DRAM industry is Alocked-in@ to using the four Rambus technologies. That is, Complaint Counsel cry it=s too late; now that the DRAM industry is using the Rambus

[42] **This section corresponds generally to RPF 1259-1360.**

technologies, switching to Complaint Counsel's alternatives would be too costly, too difficult, and too disruptive. If this were the case, however, we would not expect JEDEC and its members to waste time proposing and considering these very alternatives. Yet, that is precisely what they did; JEDEC members proposed, evaluated and considered alternatives to Rambus's technologies in SDRAM and DDR throughout the pertinent time period.

Further, if the industry were in fact locked-in, we would expect to see contemporaneous evidence that JEDEC and industry members recognized this supposedly insurmountable barrier. Yet Complaint Counsel has not identified a single document reflecting this concern. In fact, the only contemporaneous documents that speak to this issue indicate the opposite. RPF 1264. This is not surprising. The combined weight of the evidence in this case refutes any notion of an industry locked-in.

First, the evidence shows that multiple DRAM standards exist at any given time. In every year that SDRAM was produced, the evidence shows that at least four other types of DRAM were produced. In every year that DDR was produced, at least five other types of DRAM were produced. Further, the evidence shows that both SDRAM and DDR had subgenerations. For SDRAM, these included PC66, PC100, and PC133. For DDR, they included DDR200, DDR266, DDR333, and DDR400. This is significant, because the coexistence of multiple standards shows that no technological or economic force mandates that everyone in the DRAM industry use a single standard. RPF 1267-77.

Second, DRAM manufacturers are constantly redesigning DRAM products and changing their manufacturing lines to incorporate new designs and manufacturing techniques. For instance, Micron Ataped out@ numerous new DRAM designs each year. In fact, Micron taped out new designs for SDRAM and/or DDR each year from 1995 to 2002. Infineon=s Richmond plant, which started production in 1998, has produced eight different types of SDRAM and two different types of DDR. In 2002 Infineon produced or planned to produce 34 different types of DDR, 27 different types of SDRAM, 7 different types of Graphics RAM, 20 different types of Mobile-RAM, and 6 different types of RLDRAM. RPF 1278 -1307. Plainly, economic forces B such as economies of scale and network effects B do not lock-in DRAM manufacturers.

Third, the DRAM industry routinely coordinates transitions to new DRAM standards. AMD, starting from scratch in June 1997, so quickly coordinated the design and production of every complementary product B motherboards, chip sets, BIOS, etc. B for its newly designed microprocessors, that complete computer systems were shipping in 1999. Since then, the industry has coordinated transitions for the AMD microprocessor from PC100 to PC133 to DDR200 and 266 to DDR 333 to DDR400 in the period from June 1999 to May 2003. Similarly, from 1995 to 2002, Compaq coordinated transitions for its computers from EDO to PC66 to PC100 to PC133 to DDR266 to DDR333. These transitions required the design, manufacture and coordination of complementary components B new chipsets, new motherboards, etc. RPF 1308-32. Coordination issues are handled routinely and do not create lock-in.

Fourth, the economic evidence shows that neither switching costs and coordination issues would not prevent the DRAM industry from going to alternatives, if they existed. While Complaint Counsel did not produce any evidence quantifying switching costs, Rambus=s experts did. These calculations show that switching costs are modest compared to the costs of production or the costs of Rambus=s royalties. RPF 1333-46. If there were acceptable alternatives, switching costs would not be barrier to adopting those alternatives.   Similarly, the economic evidence shows that coordination issues associated with replacing the four technologies in question with alternatives are not any more costly or difficult than those faced and solved by the DRAM industry all the time. RPF 1347-52.

In light of this evidence, Complaint Counsel have not met their burden to show that the DRAM industry cannot switch to alternatives.

VII. COMPLAINT COUNSEL HAVE FAILED TO PROVE THAT RAMBUS ENGAGED IN AEXCLUSIONARY CONDUCT@

To support their monopolization claims, Complaint Counsel bear the burden of proving that Rambus engaged in anticompetitive conduct, which is commonly termed Aexclusionary conduct.@ *See, e.g, Concord Boat Corp.*, 207 F.3d at 1060. In an effort to carry this burden, Complaint Counsel allege that Rambus knowingly withheld from

JEDEC, in violation of JEDEC=s rules, information about its pending or future patent applications. Even if this factual allegation were proven by clear and convincing evidence, Complaint Counsel still would need to prove that such conduct is exclusionary. They have not done so and cannot do so.

First, exclusionary conduct is defined in both antitrust law and economics as conduct that does not make business sense except for its impact on competition. In other words, by definition, exclusionary conduct lacks any legitimate business justification. However, the record evidence proves that there are several legitimate business reasons for not disclosing information regarding pending or future patent applications, even if JEDEC=s rules required disclosure. The evidence also shows that these legitimate reasons motivated Rambus=s conduct. Consequently, Complaint Counsel have failed to meet their burden of proving that Rambus=s alleged conduct was exclusionary.[43]

[43] This is not to say, however, that a failure to comply with rules may not give rise to a claim for breach of contract or some other claim. Rather, this is to say that engaging in conduct that also is consistent with legitimate business justifications is, by definition, not exclusionary.

Second, Complaint Counsel=s own economic expert testified that a necessary condition for conduct to be deemed exclusionary is that equal or superior alternatives were excluded. Complaint Counsel have failed to satisfy this condition. The unrebutted economic evidence shows that Rambus=s technologies were superior to Complaint Counsel=s proposed alternatives.

Because Complaint Counsel have failed to show that Rambus=s alleged conduct is exclusionary under either the generally accepted definition or the definition proffered by their own expert, Complaint Counsel=s claims fail.

A. Exclusionary Conduct Means Conduct That Has No Legitimate Business Justification

Antitrust law and economic theory are of one accord on the definition of exclusionary conduct. According to the courts, to be exclusionary conduct must have Ano rational business purpose other than its adverse effects on competitors.=@ *Concord Boat Corp.*, 207 F.3d at 1062 (quoting *Stearns Airport Equip. Co. v. FMC Corp.*, 170 F.3d 518, 522 (5th Cir. 1999));[44] *see also Aspen Skiing Co. v. Aspen Highlands Skiing Corp.*, 472 U.S. 585, 608, 610-11 (1985) (holding that conduct was exclusionary where the

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[44] Some courts refer to exclusionary conduct as predation. *See, e.g., Neumann v. Reinforced Earth Co.*, 786 F.2d 424, 427 (D.C. Cir. 1986) (Apredation involves aggression against . . . rivals through the use of business practices that would not be considered profit maximizing except for the expectation that (1) actual rivals will be driven from the market, or the entry of potential rivals blocked or delayed, so that the predator will gain or retain a market share sufficient to command monopoly profits, or (2) rivals will be chastened sufficiently to abandon competitive behavior the predator finds threatening to its realization of monopoly profits@).

defendant failed to offer Aany efficiency justification whatever@ for its pattern of conduct, and where it was instead Awilling to sacrifice short-run benefits and consumer goodwill in exchange for a perceived long-run impact on its smaller rival@). Indeed, the Federal Trade Commission and the Department of Justice recently represented to the Supreme Court that conduct is exclusionary only when it Awould not make economic sense unless it tended to reduce or eliminate competition.@ Brief for the United States and the Federal Trade Commission as Amicus Curiae on Petition for a Writ of Certiorari, *Verizon Communications, Inc. v. Trinko,* No. 02-682, at 13 (December 2002) (AFTC *Trinko* Br.@) http://www.usdoj.gov/osg/briefs/2002/2pet/5ami/2002-0682.pet.ami.pdf.[45] Similarly, as the uncontradicted evidence at trial has shown, the

[45] *See also* FTC *Trinko* Br. at 9 (criticizing a theory of antitrust liability Auncabined by any requirement that the challenged conduct be exclusionary or predatory B i.e., that the [conduct] not make economic sense *except* as an effort to diminish competition@ B because such a theory Aunduly expands@ antitrust law) (emphasis in original); *id.* at 17 (no liability if antitrust theory Adoes not require the monopolist=s conduct to be ›exclusionary= or ›predatory= within the meaning of Section 2 jurisprudence@); *id.* at 10 (AConduct is ›exclusionary= or ›predatory= in antitrust jurisprudence if the conduct would not make economic sense for the defendant but for the elimination or softening of competition.@) (citing *Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574, 588-89 (1986)); *id.* at 13 (Apredatory or exclusionary@ means Athat [it] would not make business sense unless it tended to limit or soften competition@).

economic definition of exclusionary requires that the conduct consist of short-run actions that do not make sense except in terms of their adverse impact on competition. (Rapp, Tr. 9911).

Conduct cannot be exclusionary if there is a legitimate business justification for such conduct because, in that case, the conduct *does* have a rational business purpose apart from its adverse effects on competitors. (*See* Rapp, Tr. 9911 (exclusionary conduct is Ashort-run actions without an independent business justification@)). A legitimate business justification therefore defeats a claim of monopolization. As the Ninth Circuit bluntly put it, AIf there is a valid business justification for [defendants=] conduct, there is no antitrust liability.@ *High Technology Careers v. San Jose Mercury News*, 996 F.2d 987, 990 (9th Cir. 1993); *see also Stearns Airport Equip. Co. v. FMC Corp.*, 170 F.3d 518, 522 (5th Cir. 1999) (AThe key factor courts have analyzed in order to determine whether challenged conduct is [exclusionary] is the proffered business justification for the act. If the conduct has no rational business purpose other than its adverse effects on competitors, an inference that it is exclusionary is supported.@). Or as the Eighth Circuit explained, AActs which are ordinary business practices typical of those used in a competitive market do not constitute anti-competitive conduct violative of Section 2.@ *Trace X Chemical, Inc. v. Canadian Industries, Ltd.*, 738 F.2d 261, 266 (8th Cir. 1984).

Valid business justifications B or, in the Supreme Court=s words, Anormal business purpose[s]@[46] B include any reason that makes economic sense for reasons unrealted to harming competition, including enhancing efficiency,[47] reducing costs,[48] protecting intellectual property,[49] and even Amerely trying to make more money.@[50] Pricing below average variable cost is exclusionary because it does not make economic sense apart from the prospect of driving out competitors; it increases a firm=s losses with every sale and lacks any business justification. (Rapp, Tr. 9911-12); *United States v. AMR Corporation*, 335 F.3d 1109, 1116 (10th Cir. 2003). In contrast, pricing below total cost but above variable cost is not exclusionary, even though it may have an adverse effect on competitors, because it does not increase losses and there are good business reasons for this type of pricing, such as increasing sales volume. (Rapp, Tr. 9912); *Brooke Group*, 509 U.S. at 223 (stating pricing above a relevant measure of cost is not

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[46] *Aspen Skiing*, 472 U.S. at 608-10 (conduct that tends to exclude competitors may survive antitrust scrutiny if the exclusion is the product of a Anormal business purpose@).

[47] *See, e.g., Bell v. Dow Chem. Co.*, 847 F.2d 1179, 1185 (5th Cir. 1988) (AIf the justifications are supported by legitimate business concerns (such as cost savings, shortage of supplies, more efficient production), then the district court may decide as a matter of lawY.@).

[48] *See, e.g., Ocean State Physicians Health Plan, Inc. v. Blue Cross & Blue Shield*, 883 F.2d 1101, 1111 n.11 (1st Cir. 1989) (whether or not defendant Aactually passed along its savings to subscribers, ... achieving lower costs is a legitimate business justification under the antitrust laws@).

[49] *See, e.g., In re Indep. Serv. Orgs. Antitrust Litig.*, 203 F.3d 1322, 1329 (Fed. Cir. 2000) (excluding others from use of copyrighted work is a presumptively valid business justification for any immediate harm to consumers).

[50] *Drinkwine v. Federated Publ=ns, Inc.*, 780 F.2d 735, 740 (9th Cir. 1985) (AEven that motive is consistent with competition@).

exclusionary because firms legitimately cut prices to increase market share). In other words, where there is business justification, the challenged conduct is not exclusionary even if Aone reason for [defendant=s conduct] was to disadvantage the competition.@ *Universal Analytics, Inc. v. MacNeal-Schwendler Corp.*, 914 F.2d 1256, 1259 (9th Cir. 1990). The presence of a legitimate business justification for Rambus=s conduct therefore precludes a finding of liability.

B. Rambus=s Decision To Maintain The Confidentiality Of Its Patent Applications Was Not Exclusionary Conduct; There Are Legitimate And Pro-competitive Reasons To Keep Patent Applications Secret

That Rambus did not disclose information to JEDEC about its patent applications was not Aexclusionary@ under the antitrust laws; Rambus had legitimate business justifications for keeping its patent applications confidential. Disclosure of information regarding pending patent applications may reveal competitively sensitive information about the company=s business strategy, it may jeopardize the patent application process, and it may preclude the applicant from obtaining patents in certain foreign companies. Rambus was advised of these risks by its outside patent counsel, and this advice determined its conduct. These legitimate business justifications for not disclosing information about its patent applications preclude Rambus=s conduct from being deemed to be Aexclusionary.@

1. There Are Legitimate Business Reasons To Keep Information About Pending Applications Confidential, As Rambus Was Advised By Its Attorneys[51]

[51] **This section corresponds generally to RPF 1427-47.**

United States patent law Aembodies a carefully crafted bargain@: The patentee discloses his invention, thereby giving up trade secret protection; in return the patentee obtains the right to exclude others from making or using his invention for a limited period of time. *Bonito Boats, Inc. v. Thunder Craft Boats, Inc.*, 489 U.S. 141, 150 (1989). Before that bargain is consummated by the issuance of a patent, patent applications are maintained in strictest confidence by the Patent Office.[52] (Fliesler, Tr. 8830). The courts have recognized the important values served by this policy. *See, e.g.*, *Iron & Sears v. Dann*, 606 F.2d 1215, 1220-21 (D.C. Cir. 1979) (denying access through the Freedom of Information Act to patent applications to prevent competitive harm); *Lee Pharmaceuticals v. Kreps*, 577 F.2d 610, 616 (9th Cir. 1978) (same).

It also is critical for applicants to keep their patent applications confidential. (Fliesler, Tr. 8829-30). Prior to the issuance of a patent, patent applicants have no ability to protect their inventions from use by competitors other than by keeping the inventions confidential. (Fliesler, Tr. 8829-30). Also, if the Patent Office does not grant the patent, the applicant can retain trade secret protection over the inventions described in the application so long as it has maintained the application in confidence. (Fliesler,

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[52] Effective in 2000, U.S. patent law was amended to more closely conform to international patent laws. Because international patent laws generally require that patent applications be published 18 months after filing, as amended, U.S. patent law now also provides that patent applications be published 18 months after filing unless the inventor certifies that the disclosed invention is not the subject of a foreign patent application that would be published. 35 U.S.C. ' 122. This rule was not in effect when Rambus was a member of JEDEC.

Tr. 8836-37). Moreover, patent applications may disclose an applicant=s competitive strategies; applications may show the areas of technology that the applicant is developing and disclose the areas of technology for which the applicant is seeking patent protection. (Fliesler, Tr. 8840).

Confidentiality remains important even after the written description and drawings of a patent application become public (for instance, through the publication of a related PCT application or the issuance of a patent for which the pending patent is a continuation or divisional). Pending patent applications still contain valuable information. (Fliesler, Tr. 8837-38, 8840-41). Specifically, the *claims* in the pending application, which are not disclosed by the publication of the written description, are the Ajewels@ that need protection. (Fliesler, Tr. 8840-41). The unrebutted evidence at trial demonstrates that there are several reasons for this:

First, the pending claims reveal important strategic and technical information. Information about the particular claims an applicant is pursuing shows which inventions the applicant is seeking to protect out of the universe of inventions that could be claimed based on the written description. (Fliesler, Tr. 8837, 8900-02). This information therefore divulges strategic business and technical information that a firm would want to keep from its competitors. (Fliesler, Tr. 8840-41, 8894-96); *cf. Berkey Photo, Inc. v. Eastman Kodak Co.*, 603 F.2d 263, 281-82 (2d Cir. 1979) (Aa firm may normally keep its innovations secret from its rivals as long as it wishes . . . . [E]nforced predisclosure would cause undesirable consequences beyond merely encouraging the sluggishness the Sherman Act was designed to prevent@).

Second, information about pending patent claims may allow a competitor to hijack the patent application process. A competitor armed with such information could potentially slow down or interfere with the prosecution of the application. (Fliesler, Tr. 8841-42). Moreover, information about the pending claims may allow a competitor to provoke an Ainterference@ at the Patent Office B that is, a proceeding to determine which of two applicants claiming the same invention was actually the first to invent and entitled to a patent B by claiming the same invention in one of the competitor=s applications. (Fliesler, Tr. 8834-35, 8842); *see also* 35 U.S.C. ' 135; 3-10 CHISUM ON PATENTS ' 10.09[2][b] (2003) (noting that a competing patent applicant Awill rarely be in a position to [seek such an interference] because pending applications are held by the PTO in confidence@).

Third, the disclosure of information about pending applications could jeopardize an applicant=s ability to get foreign patents. In the United States, patents are granted on a Afirst to invent@ basis, *i.e.*, the first person to conceive the invention has priority to get a patent on that invention even if that person files for the patent after someone else has already done so. (Fliesler, Tr. 8834-35). Most foreign jurisdictions, however, have a Afirst to file@ rule: regardless of who first conceived of the invention, the first inventor to file a patent application is awarded the patent. (Fliesler, Tr. 8838-39).

Disclosure of information regarding pending U.S. patent claims thus may allow a competitor to win the Arace@ to these foreign patent offices.

These concerns are not merely theoretical; they have real world impact. Competent patent attorneys routinely advise their clients to strictly maintain the confidentiality of pending patent applications. For example, Martin Fliesler, a patent attorney with over 30 years of experience prosecuting patent applications, testified at trial that he advises his clients not to disclose patent applications but to keep them confidential. (Fliesler, Tr. 8765-72, 8842-43). Should disclosure be necessary as part of business negotiations, such as for a technology transfer agreement or joint venture agreement, Mr. Fliesler advises his clients to follow a Atiered system@ of disclosure in which the pending claims are revealed only as the last step and only under the strictest of several non-disclosure agreements. (Fliesler, Tr. 8843-45).

These concerns motivated Rambus=s conduct. In 1992, Rambus=s outside patent counsel, Lester Vincent, advised Rambus=s JEDEC representative, Richard Crisp, not to disclose Rambus=s patent applications. (Crisp, Tr. 3495-96). This advice warned of the standard pitfalls associated with disclosure; as Mr. Crisp testified, based on this advice:

> I understood that companies could potentially file interference actions on our patent applications in the patent office; that in certain countries where the rules are first to file, somebody could potentially file a claim before we actually did; and that we basically would be disclosing trade secrets that could work

> against us in terms of our competitive position in the marketplace.

(Crisp, Tr. 3496). In his letters transmitting copies of Rambus=s patent applications, Mr. Vincent repeatedly reminded Mr. Crisp to Akeep in mind that this information is confidential.@ (CX 1951 at 2; CX 1945 at 2). Naturally, Mr. Crisp followed this legal advice, including while he was at JEDEC. (Crisp, Tr. 3496-97).

2. These Legitimate Business Reasons Mean That Rambus=s Alleged Conduct Was Not Exclusionary[53]

The uncontradicted testimony at trial shows that these reasons for not disclosing information about pending patent applications or intentions to file or amend future applications are Alegitimate business justifications@ that preclude Rambus=s alleged conduct from being exclusionary. The evidence shows not only that not disclosing such information is an Aordinary business practice[] typical of those used in a competitive market,@ *Trace X Chemical*, 738 F.2d at 266, and that there are Arational business purpose[s]@ for doing so apart from any adverse effects on competitors, *Stearns Airport Equip.*, 170 F.3d at 522, but also that not disclosing this information relates Ato the enhancement of consumer welfare,@ *Data Gen. Corp. v. Grumman Sys. Support Corp.*, 36 F.3d 1147, 1183 (1st Cir. 1994).

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[53] **This section corresponds generally to RPF 1427-58.**

Not disclosing information about pending patent applications or intentions regarding future applications was not unique to Rambus; it is an ordinary business practice in the DRAM industry. For instance, Robert Goodman, the CEO of Kentron, testified that Kentron=s policy is to treat patent applications as trade secrets and to preserve their confidence. (Goodman, Tr. 6072). When Kentron was asked by members of a JEDEC committee to disclose the claims of a pending patent application, Kentron refused and never disclosed its actual pending claims, instead disclosing only a generalized description of its application. (Goodman, Tr. 6059-60, 6067-70).

Similarly, in October 1992 JC 42 chairman Jim Townsend circulated to members of the committee an article entitled ADon=t Lose Your Patent Rights.@ (CX 342 at 8). In the article, inventors are admonished to AKeep It Under Your Hat,@ *i.e.*, not disclose their inventions prematurely because disclosure may waive any rights to obtain a patent. *Id*. According to the article, in the United States if an inventor does not file an application within one year of a disclosure, the inventor is barred from obtaining a patent. *Id.* The article warns that in some foreign jurisdictions, however, A*Any* disclosure before filing of an application will bar rights to a patent.@[54] *Id.* (emphasis added).

[54] Notably, this article was sent to many of the witnesses Complaint Counsel called at trial to testify regarding JEDEC=s patent policy, including John Kelly, Brett Williams, Howard Sussman, Willi Meyer, Desi Rhoden, Gordon Kelley, and Mark Kellogg. (CX 342 at 1).

The economic testimony at trial thus demonstrated that the reasons Rambus had for not disclosing information about its pending or future patent applications were rational business purposes unrelated to any adverse effect on competitors. (Rapp, Tr. 9915-18; 9926).

The evidence also showed that *not* disclosing information about pending or future patent applications may enhance consumer welfare. Non-disclosure of patent applications is *pro-competitive* for the same reason that preserving trade secrets is pro-competitive; it preserves incentives to innovate, which depend on the ability to control intellectual property. (Rapp, Tr. 9918-19). Thus, not disclosing information about pending or future patent applications increases competition and thereby enhances consumer welfare.

These conclusions apply in the standard-setting context as in any other. A member of a standard-setting body obtains the benefits from not disclosing information regarding its pending or future patent applications *regardless* of what standards are developed. (Rapp, Tr. 9919-20). In other words, the benefits to a company from keeping control of its business and intellectual property strategies are independent of the direction of the standardization efforts. (Rapp, Tr. 9919-20).

Thus, if Rambus had failed to disclose information to JEDEC about its pending or future patent applications that it was required to disclose, its conduct would not have been exclusionary because there was a legitimate business justification for such nondisclosure. (Rapp, Tr. 9921). Keeping that information confidential did not impose on Rambus costs or risks that were compensable only by excluding rivals and thereby gaining market power. (Rapp, Tr. 9924). In other words, Rambus=s alleged nondisclosure is not exclusionary conduct.

This economic evidence stands uncontradicted. Complaint Counsel=s economic expert conceded that concealing information, even if it discourages competitors from entering a market, is not exclusionary. (McAfee, Tr. 7525-27). He also conceded that it is not exclusionary to conceal an invention from competitors in order to take advantage of the invention while others cannot. (McAfee, Tr. 7527-28). Yet he admitted that the only Acandidate purpose@ he considered for Rambus=s withholding information about its patent applications was monopolization. (McAfee, Tr. 7539). In other words, Complaint Counsel=s economic expert simply did not consider other purposes that might have led Rambus to take the risk that he identified, and his testimony should therefore be accorded little weight. (McAfee, Tr. 7539); *cf. Claar v. Burlington N. R.R.*, 29 F.3d 499, 502 (9th Cir. 1994) (upholding exclusion of expert testimony that failed to rule out alternative explanations of the evidence).

In sum, that there were legitimate business justifications that motivated Rambus=s conduct precludes the Court from finding that Rambus=s business conduct was exclusionary. The Complaint should therefore be dismissed. *See, e.g., Technical Resource Servs. v. Dornier Med. Sys., Inc.*, 134 F.3d 1458, 1466 (11th Cir. 1998) (holding that there can be no Section 2 liability Aif the defendant=s actions can be explained by legitimate business justifications@).

C. That Rambus=s Conduct Might Have Violated Some Common-Law Or Other Non-Antitrust Duty Does Not Make It A Proper Basis For Antitrust Liability

While it is obvious from foregoing, it bears repeating that this conclusion holds even if Complaint Counsel were to prove that Rambus=s conduct violated JEDEC=s rules. In other words, even if JEDEC=s rules *did* require Rambus to disclose information about its pending or future patent applications, Rambus=s failure to do so would not be exclusionary and therefore would not violate the antitrust laws. First, the presence of a JEDEC rule requiring disclosure does not change the definition of exclusionary conduct nor negate Rambus=s legitimate business justifications for not disclosing. Whether conduct is Aexclusionary@ cannot be determined simply by reference to rules, duties or standards extrinsic to the antitrust laws. As Judge Posner put it, exclusionary conduct cannot be determined by liability Ain tort or contract law, under theories of equitable or promissory estoppel or implied contract . . . or by analogy to the common law tort@ rules. *Olympia Equipment Leasing Co. v. Western Union Tel. Co.*, 797 F.2d 370, 376 (7th Cir. 1986).

The courts have repeatedly made clear that a violation of an extrinsic rule, statute, or ethic is not itself exclusionary conduct. As the Fifth Circuit put it, AAntitrust law is rife with . . . examples of what competitors find to be disreputable business practices that do not qualify as predatory behavior.@ *Taylor Publ=g Co.*, 216 F.3d at 476. To prove monopolization, even if JEDEC=s rules were violated, Complaint Counsel must demonstrate that Rambus=s conduct was exclusionary within the meaning of the antitrust laws B *i.e.*, that it lacked a legitimate business justification. *See, e.g., Goldwasser v. Ameritech Corp.*, 222 F.3d 390, 399-401 (7th Cir. 2000) (plaintiff must state Afreestanding antitrust claim@ and cannot base its antitrust claim simply on violations of the 1996 Telecommunications Act, even though that Act was intended to promote Athe development of competitive local markets@); *see also Bucher v. Shumway*, 452 F. Supp. 1288, 1291 (S.D.N.Y. 1978) (no antitrust liability for violation of laws preventing Adeception or overreaching@ in the securities markets).

In other words, the antitrust analysis does not change even if Rambus failed to comply with a JEDEC disclosure rule. For example, in *Conoco, Inc. v. Inman Oil Co.*, 774 F.2d 895 (8th Cir. 1985), a distributor of petroleum products brought suit against its franchisor alleging that the franchisor=s low bidding for contracts that the distributor was also seeking constituted an attempt to monopolize and a breach of the implied obligation of good faith and fair dealing between the parties. While holding that bidding against its franchisee *did* breach the franchisor=s implied obligation of good faith and fair dealing, the Eighth Circuit held that the conduct was *not* exclusionary because the franchisor had a legitimate business reason unrelated to the elimination of competitors B obtaining a new customer. *Id.* at 905-06, 908-09.

While this is sufficient, there is more. Complaint Counsel also have failed to prove that enforcing JEDEC=s rules would advance the purposes of antitrust law. The refusal of the antitrust laws simply to equate a violation of extrinsic rules with exclusionary conduct applies with special force where the extrinsic rules arise from a private contract or understanding, such as JEDEC=s rules or policies. Private agreements are generally intended to achieve the private goals of the parties and do not necessarily further antitrust goals. Antitrust law, Aframed to preserve normal competitive forces,@ does not Apolice the performance of private contracts.@ *Madison Fund, Inc. v. Charter Co.*, 406 F. Supp. 749, 751 (S.D.N.Y. 1975). As a result, Aa claimed breach of contract by unreasonable conduct, standing alone, should not give rise to antitrust liability,@ *Vernon v. Southern California Edison Co.*, 955 F.2d 1361, 1368 (9th Cir. 1992) (emphasis added). Rather, antitrust liability rests on the separate inquiry as to whether a defendant acted Aanticompetitively and without a legitimate business reason.@ *Id.*; *see also Brookside Ambulance Serv., Inc. v. Walker Ambulance Serv.*, 39 F.3d 1181 (6th Cir. Oct. 26, 1994) (per curiam) (table) (even if it violated existing protocol, defendant ambulance company=s practice of Arun-jumping@ was Anot anticompetitive@ for antitrust purposes because the practice maximized defendant=s ability to receive calls and promoted efficient use of its ambulance fleet; a firm, Aregardless of its market power,@ may promote efficiency).

Complaint Counsel offered no evidence to support a finding that enforcing a JEDEC disclosure obligation that required the disclosure of pending and future patent applications would advance the goals of the antitrust laws. It is uncontested that not disclosing such information is procompetitive and enhances consumer welfare. (Rapp, Tr. 9918-19). It is therefore incumbent on Complaint Counsel to demonstrate that requiring disclosure is better for consumers than nondisclosure. Complaint Counsel have, to be sure, elicited evidence that such a rule may reduce the risk of hold-up. But that there is some benefit from such a rule is not the issue. Rather, the issue is whether that benefit outweighs the procompetitive benefits to consumers of not disclosing information about pending and future patent applications. Complaint Counsel have failed to meet this burden. While insisting that a disclosure rule mitigates a hold-up risk, Complaint Counsel's economic expert admitted that he had done no analysis to determine whether JEDEC's rules and processes advance the interests of antitrust law. (McAfee, Tr. 7532-33). Nor did he perform any analysis of the JEDEC's costs and benefits in order to determine the economically efficient disclosure standard for it to impose. (McAfee, Tr. 7727). In fact, he admitted that he had not even investigated the economic efficiency of JEDEC's rules. (McAfee, Tr. 7727-28).

Moreover, although he opined that disclosure rules mitigate the risk of hold up, Complaint Counsel's economic expert admitted that JEDEC's disclosure rules in fact do little to mitigate that risk because the disclosure obligation is measured only by the knowledge of the representative at the meeting, rather than that of the member company, (McAfee, Tr. 7724); and because in large companies, the representative might not have much knowledge of the company's patents. (McAfee, Tr. 7724-25). He also admitted that a JEDEC disclosure requirement does not mitigate the risk that the standard might involve technology covered by patents held by nonmembers. (McAfee, Tr. 7725). In short, even according to their own economist, the benefits of Complaint Counsel's presumed disclosure rule are limited.

Even further, there is economic evidence that weighs against a finding that enforcing JEDEC's rules would promote economic efficiency. There are economic costs involved with disclosing information about pending and future patent applications, which include the cost to the patent applicant of losing trade secret protection and other benefits of confidentiality. (Teece, Tr. 10453). JEDEC too would bear the costs of trying to evaluate and assess this highly preliminary information. (Teece, Tr. 10453-54). Complaint Counsel did not demonstrate that the benefits of disclosure would outweigh these significant costs. To be sure, if the scope of any required disclosure was narrow, the attendant costs and burdens of disclosure would be reduced. (Teece, Tr. 10454, 10547-58). But a narrower scope of disclosure also reduces the supposed benefits of disclosure even further, and gives little for JEDEC to work with to avoid hold-up. If anything, a limited disclosure, say only an acknowledgment that some aspect of a ballot proposal is covered by a patent application or a general description of the subject matter of an application, would only allow JEDEC to avoid wide swaths of potentially beneficial technologies, or to take no action at all.

Since once a RAND assurance is given, JEDEC, in practice, does not have any ongoing interest in whether technology proposed for standardization may be patented, there is little if any actual need for disclosure because JEDEC could simply require a RAND assurance without imposing the costs of disclosure. (Teece, Tr. 10548). In other words, the record evidence shows that any disclosure rule would impose economic costs that could easily be avoided and that it would have no benefits beyond those that would be realized by simply requiring all members to RAND without requiring disclosure of nonpublic patent interests.

In sum, Complaint Counsel have not met their burden of showing that enforcing JEDEC=s rule and procedures would further the interests of antitrust law.

D. Complaint Counsel Have Failed To Meet Their Burden Of Proving That Rambus=s Alleged Conduct Was Exclusionary, Even Under The Test Proffered By Their Own Economic Expert[55]

The evidence also shows that Rambus=s conduct was not exclusionary even as that term was defined by Complaint Counsel=s own economist. According to Professor McAfee, a necessary but not sufficient condition for conduct to be exclusionary is that it must exclude equal or superior alternatives. (McAfee, Tr. 7537). The exclusion of

[55] **This section corresponds generally to RPF 1448-71.**

inferior products from the market is not exclusionary in an economic sense. (McAfee, Tr. 7536). The economic evidence shows, however, that the cost and performance advantages of the Rambus technologies made them superior to the alternatives. (Rapp, Tr. 9861-62). Complaint Counsel have not refuted this evidence.

Unlike Rambus, Complaint Counsel did not proffer any evidence quantifying the cost differences between the Rambus technologies and the alternatives Complaint Counsel proposed. In fact, Professor McAfee admitted that he did not quantify any cost differences between Rambus=s technologies and the alternative technologies. (McAfee, Tr. 11340).

Nor did Complaint Counsel offer any evidence quantifying the performance or flexibility differences between the four Rambus technologies in question and Complaint Counsel=s proposed alternatives. For instance, although Complaint Counsel=s economic expert admitted that JEDEC members would consider performance differences in deciding whether to pursue the alternatives (McAfee, Tr. 11340), he did not quantify any performance differences between the four technologies and any of the alternatives he claimed were commercially viable. (McAfee, Tr. 7581-82, 11340). Similarly, Professor McAfee also admitted that JEDEC members would consider the Aheadroom@ or future flexibility of alternatives in deciding whether to pursue the alternatives (McAfee, Tr. 11340), but he did not compare the headroom or future flexibility of the four technologies with any of the proposed alternatives. (McAfee, Tr. 11340-41).

Instead of examining the cost-performance differences between the four Rambus technologies and the proposed alternatives to determine whether Aequal or superior@ alternatives were excluded, Complaint Counsel=s expert developed what he called a Acommercial viability@ test.[56] (McAfee, Tr. 7330-31). According to him, an alternative was Acommercially viable@ if it constrained the price of Rambus=s technologies. (McAfee, Tr. 7330-31).

But using this definition of Acommercially viable@ does *not* show that a technology is Aequal or superior.@ The economic testimony shows that even weak substitutes can constrain the price of a technology. (Rapp, Tr. 9860). This problem was compounded by the fact that Complaint Counsel=s economic expert provided no analysis

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[56] Although Complaint Counsel=s economic expert claimed that his methodology was Aparallel@ to standard economic tests, he admitted that he was aware of no economic literature that describes the use of a Acommercial viability@ test to determine market substitutability or alternatives. (McAfee, Tr. 7567). Whether an expert=s methodology has been the subject of publication and peer review is one of the factors considered in weighing its reliability. *See Daubert v. Merrell Dow Pharms., Inc.*, 509 U.S. 579, 593-94 (1993).

of price elasticity. In other words, he did not consider the price level required before the alternatives would actually constrain the price. Instead, he simply looked for evidence that an alternative was considered as a possible alternative by members of JEDEC and whether knowledgeable engineers now claimed that the alternative was viable. (McAfee, Tr. 7333-34). Under this analysis, an alternative can therefore be Acommercially viable@ without being equal or superior. (Teece, Tr. 10368, 10370-71).

Further magnifying this error, Complaint Counsel=s economic expert defined commercial viability with respect to the subjective preferences of JEDEC and rather than seeking to determine whether the proposed alternatives were equal or superior in any objective sense (*i.e,*, cost-performance criteria). (McAfee, Tr. 7335). For instance, he judged patented technologies to be Ahobbling@ because the JEDEC rules supposedly put a Apenalty@ on technologies that were covered by intellectual property. (McAfee, Tr. 7337,7582-83). He thus regarded patented technologies, such as Rambus=s, as inferior merely because of the presence of intellectual property and without regard to the level of royalties sought for that technology in relation to their performance and other cost benefits.

JEDEC=s alleged preferences are not a proxy for consumer welfare; determining whether an alternative is Aequal or superior@ cannot turn on such subjective judgments. For example, in a competitive market, if the best solution in cost-performance terms is patented and involves the payment of royalties, competition will dictate that the royalties be paid and that the patented solution is adopted. (Rapp, Tr. 9939). While individual executives in an industry may dislike paying royalties, just as they may dislike paying healthcare costs for workers or a competitive wage, they will have no choice because competition will mandate that these costs be incurred. (Rapp, Tr. 9938-39). Consumers benefit by obtaining the best cost-performance alternatives even though the industry executives may have wanted another alternative.

While this is sufficient to undermine the reliability of Complaint Counsel=s economic expert=s opinion, the other factors he considered were even more subjective. For instance, he considered Aa perception of the magnitude of the problems@ associated with a technology as Arelevant to the determination of which technologies should be selected.@ (McAfee, Tr. 7586). In other words, he based his determination of whether a technology was Aequal or superior@ on the subjective perceptions of JEDEC members at the time, regardless whether these perceptions were correct. Similarly, he factored in whether some JEDEC members might prefer the technology because they are better equipped to produce it. (McAfee, Tr. 7338-39). Complaint Counsel=s economic expert also relied on his notion of Asatisficing,@ to conclude, in effect, that a product that has less performance is nonetheless Aequal@ to one with better performance. (McAfee, Tr. 7335-36). In other words, because he believed that JEDEC was Asatisficing,@ Complaint Counsel=s economic expert defined Aequal@ to include technologies that were *inferior* to Rambus=s technologies. In short, Complaint Counsel=s economic expert let JEDEC=s subjective preferences dictate his analysis of what technologies were Aequal or superior@ to Rambus technologies.

Not only were the factors considered by Complaint Counsel=s economic expert subjective, his methodology was as well. Rather than examining the actual cost differences between the Rambus technologies and the alternatives, Complaint Counsel=s economic expert simply opined that he had considered an amalgam of factors and determined that certain alternatives were Acommercially viable@ based Aon the information [he] analyzed.@ (See, e.g., McAfee, Tr. 7363). Even his ultimate conclusion was subjective and therefore impervious to testing. While he testified that it was likely that at least one of the technologies he deemed commercially viable alternatives to Rambus=s technology was equally efficient or superior to Rambus=s technology, he admitted that *he could not identify any particular technology as equal or superior to Rambus=s technologies*. (McAfee, Tr. 7578-79). This methodology leaves the conclusions with little foundation. *Cf. O=Conner v. Commonwealth Edison Co.*, 13 F.3d 1090, 1106-07 (7th Cir. 1994) (excluding expert testimony because of its subjective nature).

And it means that even under the definition of exclusionary offered by their own economist, Complaint Counsel has not proven that Rambus=s alleged conduct was exclusionary.

E. Rambus=s Amending Its Patent Applications Was Not Exclusionary; The Patent Laws Gave Rambus The Right To Claim Every Invention Described In The Original C898 Application

Complaint Counsel cannot circumvent the law, principles of economics and the testimony of their own economics expert by now arguing that Rambus took ideas for some of its patents from discussions at JC-42.3 and that such conduct is anticompetitive. Indeed, such an argument would run afoul as well of concessions made by Complaint Counsel=s patent law expert, Mr. Nusbaum.

The patent laws dictate that Rambus=s patents could be based only on the Aideas@ described in the original Farmwald-Horowitz patent application (the =898 application). Rambus could not have Ataken@ ideas from JEDEC to be incorporated into its patent applications.[57] The patent laws also make it clear that Rambus was well within its rights to seek claims for the inventions disclosed in the =898 application that it saw being considered for use by JEDEC members. The courts have repeatedly held that there is nothing improper with such Astandard practice.@

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[57] Moreover, as Complaint Counsel have acknowledged, they do not and cannot second-guess the PTO=s determination that Rambus=s patents properly claim priority to the original C898 application.

As background, it is important to understand the interaction between the two parts of a patent:

> The patent document which grants the patentee a right to exclude others and hence bestows on the owner the power to license, consists of two primary parts: (1) a written description of the invention, which may and here does include drawings, called the Aspecification,@ enabling those skilled in the art to practice the invention, and (2) claims which define or delimit the scope of the legal protection which the government grant gives the patent owner, the patent Amonopoly.@

General Foods Corp. v. Studiengesellschaft Kohle mbH, 972 F.2d 1272, 1274 (Fed. Cir. 1992). At the most basic level, these two parts are intertwined because each patent claim must be Asupported@ by the written description. To obtain a patent claim, therefore, the inventor must adequately set forth in the written description (1) the invention, (2) the manner and process of making and using the invention, and (3) the best mode contemplated by the inventor of carrying out the invention. 35 U.S.C. ' 112; *see also* 3-7 CHISUM ON PATENTS ' 7.01 (2003).

The patent system recognizes, however, that an inventor might not fully claim all inventions nor the full scope of the individual inventions in an initial application. Rather than force inventors to claim everything possible in an original application, the patent system has several mechanisms that allow an inventor to go back to an original application to refine the patent claims. Important policies underlie this scheme. First, the patent laws seek to encourage early disclosure of inventions, allowing further innovation based on the disclosed inventions. Requiring inventors to claim everything possible in an original application upon pain of losing rights to an invention would go against this policy; inventors would delay filing an application until sure that each possible claim has been meticulously drafted. Second, it is well recognized that reducing an invention to particular claims is a difficult task and that oftentimes the commercial value of a particular potential claim is not apparent at first. The patent laws therefore allow the inventor sufficient flexibility to claim the full scope of the disclosed inventions as the importance of particular aspects of an invention become apparent.

1. Patent Applicants May Continue To Claim Inventions Described In An Original Application Through Amendments, Continuations, and Divisionals

To allow the inventor to claim the full scope of the inventions disclosed in the application, patent law allows the inventor to amend its claims, to file continuation applications,[58] or to file divisional applications.[59] Critically, to maintain the same priority date as the original application, any amendment, continuation application, or divisional application must be supported by the disclosure in the original application. 35 U.S.C. '' 112, 120, 121, 132. This means that the first requirement of patentability, that the inventor adequately describe the invention (known as the Awritten description@ requirement), is crucial. To be adequate, a written description must Aconvey with reasonable clarity to those skilled in the art that, as of the filing date sought, [the inventor] was in possession of the invention.@ *Vas-Cath, Inc. v. Mahurkar*, 935 F.2d 1555, 1563-64 (Fed. Cir. 1991). The written description requirement, therefore, limits the inventor to those inventions disclosed in the original application: AThe purpose of the written description requirement is to prevent an applicant from later asserting that he invented that which he did not; the applicant for a patent is therefore required to ›recount his

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[58] A continuation application is a second application containing the same disclosure as the original application. *See* 4-12 CHISUM ON PATENTS '13.03[2] (2003).

[59] Divisional applications effectively divide the original application into several applications. Where a patent application contains Aindependent@ and Adistinct@ inventions, i.e., Ainventions that do not form a single inventive concept,@ 37 C.F.R. ' 1.141(a), the patent examiner Amay require the application to be restricted to one of the inventions.@ 35 U.S.C. ' 121. In response, the applicant may elect to pursue one of these inventions in the original application and file Adivisional@ applications to obtain claims covering the other inventions, and the divisional application retains the priority date of the original application. *Id.*; *see also* 4-12 CHISUM ON PATENTS ' 12.04 (2003).

invention in such detail that his future claims can be determined to be encompassed within his original creation.=@ *Amgen Inc. v. Hoechst Marion Roussel, Inc.*, 314 F.3d 1313, 1330 (Fed. Cir. 2003) (quoting *Vas-Cath*, 935 F.2d at 1561).

This means that, to maintain the same priority date as the original application, neither an amendment to a continuation application, nor a divisional application, may add any Anew matter.@ 35 U.S.C. ' 132 (ANo amendment shall introduce new matter into the disclosure of the invention.@); 35 U.S.C. ' 120 (giving benefit of original application filing date under certain circumstances); *Applied Materials v. Advanced Semiconductor Materials Am.*, 98 F.3d 1563, 1579 (Fed. Cir. 1996) (Mayer, J., concurring) (ABy definition, a continuation adds no new matter and is akin to an amendment of a pending application.@); 35 U.S.C. ' 121 (according original priority date to divisional application only if the divisional conforms to section 120). ANew matter@ is something that describes a different invention or adds to or changes the nature of the disclosed inventions. *See, e.g., Regents of the Univ. of N. M. v. Knight*, 321 F.3d 1111, 1121 (Fed. Cir. 2003).

These requirements B that any amendment, continuation application, or divisional be supported by the original disclosure without any Anew matter@ B ensure that the inventor is limited to claiming only those inventions disclosed in the original application:

> The written description requirement and its corollary, the new matter prohibition of 35 U.S.C. § 132, both serve to ensure that the patent applicant was in full possession of the claimed subject matter on the application filing date. When the applicant adds a claim or otherwise amends his specification after the original filing date . . . the new claims or other added material must find support in the original specification.

TurboCare Div. of Demag Delaval Turbomachinery Corp. v. G E, 264 F.3d 1111, 1118 (Fed. Cir. 2001).

Thus, while the '898 application continues to be the progenitor of numerous patents, the Patent Office has determined that each and every claim contained in these new patents is supported by the original written description filed by Farmwald and Horowitz in 1990. Or, to say it another way, each and every invention and the full scope of each invention claimed by Rambus was disclosed in the written description of the '898 application (and therefore in the PCT application that became public in 1991).

2. It Is Fully Legitimate For A Patent Applicant To Amend Its Pending Claims To Cover Competitors' Products

The right of an inventor to claim all of the inventions properly described in the written description of his application is not cut off because some other person begins to use the inventions before the inventor has filed a specific claim over those inventions. In other words, once the inventor has staked out his inventions in the written description of his application, the fact that someone uses one of the inventions in a competing product after the application has been filed but before the inventor claims that specific invention does not override the inventor=s entitlement to claim the invention. In fact, the Federal Circuit has explicitly held that there is nothing improper in amending a patent application to cover a competing product:

> It should be made clear at the outset of the present discussion that there is nothing improper, illegal or inequitable in filing a patent application for the purpose of obtaining a right to exclude a known competitor=s product from the market; nor is it in any manner improper to amend or insert claims intended to cover a competitor=s product the applicant=s attorney has learned about during the prosecution of a patent application.

Kingsdown Medical Consultants, Ltd. v. Hollister, Inc., 863 F.2d 867, 874 (Fed. Cir. 1988). Further, the Federal Circuit has rejected the notion that amending a pending patent application to cover a competing product is somehow acting in Abad faith.@ *Multiform Desiccants, Inc. v. Medzam Ltd.*, 133 F.3d 1473, 1482 (Fed. Cir. 1998). Similarly, the courts have held that broadening pending patent claims to cover a competitor=s product does not indicate any intent to deceive. *See Emerson Elec. Co. v. Spartan Tool, LLC*, 223 F. Supp. 2d 856, 921 (N.D. Ohio 2002). In fact, amending a pending patent application to cover Aa product containing a variant of the inventor=s brainstorm@ is Astandard practice and has been for a long time.@ MERGES, MENELL & LEMLEY, INTELLECTUAL PROPERTY IN THE NEW TECHNOLOGICAL AGE 225 (2d ed. 2000).

These principles apply in the DRAM industry as they do in any other. For example, in *Texas Instruments, Inc. v. U.S. Int=l Trade Comm=n*, 871 F.2d 1054 (Fed. Cir. 1989), the patentee, Texas Instruments, amended its pending patent claims to cover a DRAM device sold by a company called MOSTEK. *Id.* at 1064-65. Specifically, Texas Instruments broadened its pending claims by deleting certain claim limitations. *Id.* at 1065. Rejecting the trial judge=s implicit finding that there was something wrong with this conduct, the Federal Circuit held that the broadening of the claims to cover the competing DRAM was proper, that the patent was not invalid, and that the DRAM products of the intervenor, Samsung Company, Ltd., infringed Texas Instrument=s patent. *Id.*

This is not to say that patent applicants can, at will, Amorph@ their pending patent claims to cover competitors= products. The patent laws ensure that the inventor can claim only inventions that were disclosed in the original written description: AWhile it is legitimate to amend claims or add claims to a patent application purposefully to encompass devices or processes of others, there must be support for such amendments or additions in the originally filed application.@ *PIN/NIP, Inc. v. Platte Chem. Co.,* 304 F.3d 1235, 1247 (Fed. Cir. 2002). In other words, patent law restricts the inventor to claiming only inventions that were disclosed in the original application, thereby preventing any sort of untoward Aabuse@ of the patent process. *See Vas-Cath*, 935 F.2d at 1561 (AAdequate description of the invention guards against the inventor=s overreaching by insisting that he recount his invention in such detail that his future claims can be determined to be encompassed within his original creation.@).

3. Under These Principles, It Was Entirely Legitimate For Rambus To Seek Claims Covering Technologies Promoted By Other JEDEC Members That Were Originally Disclosed in the =898 Application

The implication of these patent-law principles is that it was entirely legitimate for Rambus to seek patent claims for inventions originally disclosed in the =898 application that were being used by JEDEC members. Under these principles, Rambus could not add ideas taken from JEDEC into its patent application B this would be to add new matter. Rather, Rambus could only claim Aideas@ (i.e., inventions) that were properly disclosed in the original =898 application, i.e., Awithin [Farmwald=s and Horowitz=s] original creation.@ *Vas-Cath*, 935 F.2d at 1561.

The opposite transaction, however B JEDEC members Aborrowing@ ideas from Rambus=s patent application B was in fact possible. While patent law prevented Rambus from taking ideas from JEDEC and claiming them as its own, nothing prevented JEDEC members from taking pieces of Rambus=s disclosed inventions and incorporating those inventions into the SDRAM and DDR standards.[60] Patent law prevents the unlicensed use of inventions only after a patent issues; prior to that time, patent law does not prohibit the use of inventions disclosed in an application for which claims have not issued. Of course, the JEDEC members proceeded at the risk (known to them) that the patent office would issue claims covering the borrowed inventions.

That JEDEC members might have been borrowing some of Rambus=s inventions for use in JEDEC standards did not adversely impact Rambus=s patent prosecution efforts; the Patent Act gave Rambus the right to seek patent protection over its inventions regardless of the JEDEC members= activities. As the Federal Circuit has repeatedly held, there is nothing wrong, unethical, deceptive, or Abad faith@ about an inventor seeking patent protection for inventions that were being used by others, so long as those inventions were in the original application. Rambus=s decisions to amend its patent applications thus cannot be exclusionary conduct.[61]

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[60] Prior to the issuance of the =703 patent and the publication of the PCT application, certain JEDEC members may have Aborrowed@ Rambus=s ideas in violation of non-disclosure agreements, but proving such a breach is notoriously difficult. After the publication of these documents, of course, JEDEC members could Aborrow@ ideas from the publicly available written description.

[61] Rambus=s patent litigation efforts and its prelitigation demands for royalties are also immune from antitrust liability. *See Professional Real Estate Investors v. Columbia Pictures Indus.*, 508 U.S. 49, 60-61 (1993) (holding that nonsham litigation is immune from antitrust liability); *Primetime 24 Joint Venture v. NBC*, 219 F.3d 92, 100 (2d Cir. 2000) (holding that prelitigation demands are immune from antitrust liability); *McGuire Oil Co. v. Mapco, Inc.*, 958 F.2d 1552, 1560 (11th Cir. 1992) (same). The Federal Circuit has also stated that in Athe absence of any indication of illegal tying, fraud in the Patent and Trademark Office, or sham

litigation, the patent holder may enforce the statutory right to exclude others from making, using, or selling the claimed invention free from liability under the antitrust laws.@ *In re Indep. Serv. Orgs. Antitrust Litig.*, 203 F.3d 1322, 1327 (Fed. Cir. 2000). The issue of whether this statement is consistent with an antitrust theory premised on misleading a standard-setting body has not been decided. *See Intel Corp. v. Via Techs., Inc.*, 2001 WL 777085 at *6 (N.D. Cal. 2001).

VIII. COMPLAINT COUNSEL HAVE FAILED TO SHOW ANY ANTICOMPETITIVE EFFECTS AS THE RESULT OF ANY CONDUCT BY RAMBUS

Even if Complaint Counsel met their burden to prove that the JEDEC disclosure duty was so broad as to require Rambus to disclose its patent interests to JEDEC, Complaint Counsel would still have to prove that Rambus=s conduct caused or threatened to cause anticompetitive effects. *See, e.g., Trans Sport, Inc. v. Starter Sportswear, Inc.*, 964 F.2d 186, 188 (2d Cir. 1992) (ATo sustain a ' 2 claim, the plaintiff must prove not only that the defendant had the power to monopolize, but also that it willfully acquired or maintained its power, thereby causing unreasonable ›exclusionary,= or ›anticompetitive= effects.@ (internal citations omitted)); *see also Taylor Publ=g Co.*, 216 F.3d at 474 (stating that in an attempted monopolization case, court must find threatened anticompetitive effects); *E.I. Du Pont de Nemours & Co. v. FTC*, 729 F.2d 128, 141 (2d Cir. 1984) (vacating Commission order under Section 5 regarding unilateral conduct and requiring nexus between conduct and Aadverse competitive effects@).

Anticompetitive effects cannot be inferred from proof of exclusionary conduct and intent to monopolize; the effects must be proven. *See Spectrum Sports*, 506 U.S. at 459 (reversing because Athe trial instructions allowed the jury to infer specific intent and dangerous probability of success from the defendants= predatory conduct, without any proof of the relevant market or of a realistic probability that the defendants could achieve monopoly power in that market@); *see also Ashkanazy v. I. Rokeach &*

Sons, *Inc.*, 757 F. Supp. 1527, 1540 (N.D. Ill. 1991) (holding in an attempted monopolization case that there must be a Acausal link between the anticompetitive behavior and the dangerous probability of success@).

Complaint Counsel contend that Rambus=s conduct allowed it to gain additional market power that it would not otherwise have had. According to Complaint Counsel, this market power is manifest in Rambus=s royalty rates, which Complaint Counsel contend reflect anticompetitive hold up resulting from the alleged failure to disclose.

A. Complaint Counsel Failed To Prove That Standardization By JEDEC Enhanced Rambus=s Market Power

To sustain their monopolization claims, Complaint Counsel must prove that Rambus=s market power flowed from the challenged conduct rather than from the superiority of Rambus=s technologies. *See, e.g., United States v. Grinnell Corp.*, 384 U.S. 563, 570-71 (1966) (requiring proof that defendant acquired monopoly power through anticompetitive conduct rather than a superior product). The essence of Complaint Counsel=s economic theory in this case is that JEDEC=s standardization of Rambus=s technologies enhanced Rambus=s market power. The evidence, however, shows that it did not.

1. Complaint Counsel Failed To Prove That Standardization, Not The Superiority Of Rambus=s Technologies, Accounts For Rambus=s Market Power

The uncontested evidence at trial shows that formal standard setting may enhance market power only if certain economic conditions are met. Formal standard-setting may create or add to market power when (1) the industry has high compatibility requirements, (2) the standard-setting body is faced with several technologies that are more or less equivalent in cost-performance terms, and (3) standard-setting elevates one of those technologies above the others. RPF 1523. In contrast, where compatibility requirements are not high, market power is not gained through standard setting. RPF 1523. Further, where one technology is superior to the alternatives, formal standard-setting does not add any market power; the superior technology would have, in any event, been selected and become the *de facto* standard. RPF 1524. Any market power is due to the superiority of the technology, not standard-setting. RPF 1524

In this case, the evidence shows that the necessary economic conditions for formal standardization to enhance Rambus=s market power did not exist. First, the evidence shows that the DRAM industry does not have exceedingly high compatibility requirements. Where compatibility requirements are exceedingly high, the market might permit only a single standard. RPF 1508. This may occur in a network situation, such as fax machines that cannot work unless each fax machine can communicate with the other. RPF 1508. Where compatibility requirements are less than extreme, multiple standards may coexist. RPF 1509. Here, although DRAM must be compatible with other components in a particular computer, a computer with one type of DRAM can communicate with a computer with another type of DRAM. RPF 1510. This means that compatibility requirements in the DRAM industry are not high. RPF 1510. Not surprisingly, the evidence shows that multiple standards coexist in the DRAM industry. RPF Section X.A.1.

Moreover, the evidence also shows that formal standard-setting is neither necessary nor sufficient for a standard to be successful in the DRAM industry. RPF 1513-1522. *De facto* standards, such as for Video DRAM and RLDRAM, have emerged in the industry. RPF 1514-15. Some JEDEC standards, such as Burst EDO, have failed. RPF 1516. And even the JEDEC SDRAM standard has been modified by Intel and by other industry participants because it was insufficient, leading to the PC66, PC100, and PC133 standards. RPF 1517-21. This shows that there are market participants and market forces other than formal standardization that can lead to standardization in the DRAM industry. RPF 1522. And it shows that formal standardization by JEDEC does not enhance market power. RPF 1522-24.

Second, the evidence shows that Rambus=s technologies were superior in cost-performance terms. RPF Section IX. Absent formal standard-setting, therefore, Rambus=s technologies would have been selected by the market and become a *de facto* standard. RPF 1523-25. This, combined with the fact that compatibility requirements are not high, leads to the conclusion that standardization of the Rambus technologies by

JEDEC did not reduce the substitution possibilities of alternatives and that Rambus=s market power was unchanged by formal standard-setting by JEDEC. RPF 1525.

2. Complaint Counsel Failed To Prove That Lock-in, As Opposed To The Superiority Of Rambus=s Technologies, Prevents Switching

Moreover, the evidence shows that Rambus did not obtain any additional market power due to its technologies being standardized at JEDEC because, as explained above, even after standardization, switching costs would not have prevented a shift to an available technology that was as good or better than Rambus=s technology. RPF Section X.B. Absent prohibitive switching costs, JEDEC members could turn to the alternatives thereby preventing Rambus from having market power as a result of its technologies being standardized. *See, e.g.*, *Alcatel USA, Inc. v. DGI Techs., Inc.*, 166 F.3d 772, 783-84 (5th Cir. 1999) (rejecting monopolization claim because plaintiff failed to prove significant switching costs); *United Farmers Agents Ass=n v. Farmers Ins. Exch.*, 89 F.3d 233, 237-39 (5th Cir. 1996) (affirming summary judgment on the ground that antitrust plaintiff failed to show defendant with 100% of relevant market possessed market power because switching costs were low).[62] The evidence shows that switching costs are not

[62] Switching costs in this sense are akin to entry barriers that prevent the entry of competing technologies. Proof of barriers to entry is essential to sustain a monopolization claim:

prohibitive in the DRAM industry, which shows that standardization of Rambus=s technologies by JEDEC did not enhance Rambus=s market power. RPF 1526.

B. Complaint Counsel Failed To Prove That The But-For World Would Have Been Any Different, *i.e.*, That The Challenged Conduct Enhanced Rambus=s Market Power

Another way of looking at the issue of market power is to ask, AWhat would have happened had Rambus made the additional disclosures? Would Rambus=s or JEDEC=s postions have been any different?@ If JEDEC would have adopted the Rambus technologies and ended paying the same royalties even had Rambus made the additional disclosures, the failure to make those disclosures could not have enhanced Rambus=s market power. RPF 1530-36. Analyzing the evidence in this manner again shows that the alleged Rambus conduct did not enhance Rambus=s market power.

As described above, the evidence shows that even if Rambus had made the additional disclosures that Complaint Counsel allege should have been made, JEDEC still would have adopted the four Rambus technologies. The evidence shows that JEDEC=s

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Aneither monopoly power nor a dangerous probability of achieving monopoly power can exist absent evidence of barriers to new entry or expansion.@ *American Professional Testing Serv.*, 108 F.3d at 1154.

revealed preference for the four Rambus technologies would not have been changed by additional Rambus disclosures. RPF Section IX.A. The evidence also shows that, even had Rambus made additional disclosures, rational DRAM manufacturers and a rational JEDEC would have selected Rambus=s technologies because proposed noninfringing alternatives were inferior to Rambus=s technologies in cost-performance terms, even accounting for Rambus=s royalties. RPF Section IX.B.3d. And the decision tree analysis considering both JEDEC=s and Rambus=s economic incentives shows that JEDEC would have adopted Rambus=s technologies. RPF Section IX.B.4.d.

The question remains, however, whether JEDEC members would pay the same royalties in the but-for world. As discussed above, *ex ante* negotiations are highly unlikely to have occurred. That means JEDEC members and Rambus would have negotiated for licenses to Rambus=s technologies in SDRAM and DDR at the same time they did in the real world B after Rambus=s patents issued in 1999.

If that is the case, the question is whether there would be anything different in a world in which Rambus made the additional disclosure that would have affected these negotiations. If Rambus had made the additional disclosures and if JEDEC would have adopted the technologies without *ex ante* negotiations, the situation in the but-for world would be identical but for one possible difference. If JEDEC asked for and received a RAND letter, Rambus would have been bound by the terms of that letter.

(Note that if JEDEC had proceeded without asking for RAND letter, nothing would be different.)

It is fair to ask, then, whether Rambus=s SDRAM and DDR royalty rates are reasonable and nondiscriminatory as those terms are defined by JEDEC=s RAND policy.

The evidence shows that JEDEC left it to the market (and if necessary to the courts) to define what is Areasonable.@ RPF Section XI.A.1. In other words, JEDEC defined reasonable as the rate to which a willing licensee and a willing licensor would agree after arms=-length negotiations.[63] RPF 1371. With this as the measure, the evidence shows that Rambus=s SDRAM and DDR royalty rates are in fact reasonable.

A comparison of Rambus=s SDRAM and DDR royalty rates with other royalty rates in the DRAM industry and in the semiconductor industry in general shows that Rambus=s rates are reasonable. For instance, the IBM Worldwide Licensing Policy, which was presented to JEDEC in a 1991 meeting, sets forth royalty rates from 1-5% of selling price. RPF 1377-78. Similarly, the IBM Standards Practice Manual that was in effect in 1996 states:

> The normal royalty rate for a license to IBM patents ranges from 1 percent to 5 percent of the selling price for the apparatus that practices the patents. This is a very reasonable

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[63] This is of course how the courts define a reasonable royalty for a patent license under the *Georgia-Pacific* analysis. *See, e.g., Unisplay, S.A. v. American Electronic Sign Co.*, 69 F.3d 512, 517 (Fed. Cir. 1995); *Georgia-Pacific Corp. v. United States Plywood Corp.*, 318 F.Supp. 1116, 1120 (S.D.N.Y.1970).

rate in our industry and generally meets the requirement of standards organizations that licenses be made available on reasonable and nondiscriminatory terms and conditions.

RPF 1380. Digital Equipment Corporation notified JEDEC in a RAND letter that it would seek a 1% royalty for certain patents. RPF 1384. Kentron sought the equivalent of a 5% royalty for its FEMMA patents and the price of its QBM products reflected approximately a 9% charge for its patented technology. RPF 1385. Hyundai and Samsung paid patent royalties to Texas Instruments of 8% and 9%, respectively, on the DRAM they produced. RPF 1387-88. Other data on patents in the semiconductor industry shows average royalty rates to be about 4.5%. RPF 1389-90. Because cross-licensing is prevalent in the semiconductor industry, these rates are likely lower than the rates would be for a straight patent license. RPF 1394. Rambus's rates are in the middle to low end of these DRAM industry and semiconductor industry rates. RPF 1392.

The only evidence that Complaint Counsel proffered on the issue of the level of Rambus's royalty rates was a comparison of Rambus's DDR rate with its RDRAM rate. Based on this comparison, Professor McAfee opined that Rambus's DDR rates "reflected hold up." He did *not* offer any opinion regarding Rambus's SDRAM royalty rate.

The evidence shows, however, that Rambus's DDR licenses are not comparable Rambus's RDRAM licenses. RPF 1398-1402. **{IN CAMERA MATERIAL REDACTED}**

RPF 1399. Moreover, with RDRAM, **{IN CAMERA MATERIAL REDACTED}**

RPF 1401. Rambus was able to Aparticipate in future design improvements,@ obtain information about the partner's customers, and be Apart of the process going forward.@ RPF 1401. In effect, **{IN CAMERA MATERIAL REDACTED}**

RPF 1402.

JEDEC also left the definition of Anondiscriminatory@ to the market. RPF Section XI.B.1. But the evidence shows that JEDEC members did not believe that nondiscriminatory meant that every licensee must receive the same royalty rate regardless of the situation. RPF Section XI.B.1. In fact, the evidence shows that JEDEC did not regard charging higher rates to parties that chose to litigate as compared to those who did not to be discriminatory. RPF 1406-08.

Yet that is the only type of evidence that Complaint Counsel rely upon to assert that Rambus=s royalties are discriminatory. Specifically, Complaint Counsel contend that **{IN CAMERA MATERIAL REDACTED}**

shows that Rambus=s rates are discriminatory.[64]

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[64] Notably, Complaint Counsel again failed to offer any evidence Rambus=s SDRAM royalty rates are discriminatory.

The evidence at trial, however, shows that Rambus's charging a higher rate to a party that litigates before licensing is not discriminatory. Rambus offered the same royalty rates to all potential licensees, including Hitachi and the other DRAM manufacturers that have chosen to litigate. RPF 1403. Complaint Counsel's economic expert admitted that these offers were nondiscriminatory. RPF 1403.

Moreover, demanding a slightly higher royalty from a party that insists on litigation is not discriminatory in an economic sense. A higher rate is justified for a number of reasons. First, **{IN CAMERA MATERIAL REDACTED}**
RPF 1414. Second, **{IN CAMERA MATERIAL REDACTED}**
RPF 1415. Third, **{IN CAMERA MATERIAL REDACTED}**

RPF 1416. **{IN CAMERA MATERIAL REDACTED}**
RPF 1417. Simply put, the notion that it is somehow inappropriate to charge higher royalties to parties that insist on litigation before licensing defies both economic analysis and common sense.

In the end, the but-for world outcome is the same as the actual world outcome. This means that Rambus's conduct did not cause it to gain additional market power. RPF Section XII.B.2. It therefore follows that competition has not been adversely affected by the alleged failure to disclose. RPF Section XII.B.2. Complaint Counsel has failed to prove an essential element of its case.

IX. CONCLUSION

When this case commenced, the Astory@ was that Rambus had concocted a complicated, clever and devious scheme to ensnare JEDEC and its members in Rambus=s patent trap. We know now that this Astory@ B like most urban legends B is fiction. Rambus did <u>not</u> launch a plan to evade JEDEC=s disclosure rules and entice JEDEC into adopting technologies over which Rambus hoped to obtain patent claims.

Instead, we find that JEDEC did not have any rules that required the disclosure of patent applications, or even of patents. We know this from the contemporaneous evidence of manuals and other documents from EIA, JEDEC and ANSI, from what was written by JEDEC members at the time, and from a consistent course of conduct by JEDEC and its members. When cross-examined B the centuries= old tool for seeking truth B we also find that no two proponents of a mandatory JEDEC disclosure duty could agree on the scope of that supposed duty, leading inevitably to the conclusion that the contemporaneous evidence is correct: such a duty simply did not exist. We also find that Rambus did not possess any patents or patent applications that JEDEC=s rules, even as interpreted by Complaint counsel, required it to disclose.

But we learned even more. We learned that JEDEC and its members had actual knowledge of the nature and scope of the patents that Rambus was hoping to obtain. We learned that they studied Rambus=s issued patents and its WIPO application. We learned that they traded observations and assessments of the strength of Rambus=s intellectual property, and that they persuaded themselves that Rambus=s patents would not issue, or would not be valid, because of the prior art. We also learned that Rambus=s founders, Drs. Farmwald and Horowitz, had indeed solved the memory bottleneck problem in the very best way it could be solved, and that it was the genius of their solutions, and not a Rambus Ascheme@ that led JEDEC to adopt the four technologies in question.

Through a thorough and exacting analysis by experienced and knowledgeable experts, we also learned that Complaint Counsel=s hypothesized Abut-for@ world B a world in which Rambus disclosed its patent applications to JEDEC B is identical to the real world, in which we live today.

For these and the additional reasons set forth above and in its Proposed Findings, Rambus urges this Court to dismiss the Complaint with prejudice.

DATED: September __, 2003

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UNITED STATES OF AMERICA
BEFORE THE FEDERAL TRADE COMMISSION

In the Matter of	)	
	)	Docket No. 9302
RAMBUS INCORPORATED,	)	
a corporation.	)	

CERTIFICATE OF SERVICE

I, Jacqueline M. Haberer, hereby certify that on September 9, 2003, I caused a true and correct copy of the public version of the *Initial Post-Trial Brief of Respondent Rambus Inc.* to be served on the following persons by hand delivery:

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PUBLIC

UNITED STATES OF AMERICA
BEFORE THE FEDERAL TRADE COMMISSION

In the matter of **RAMBUS INC.,** **a corporation.**	**Docket No. 9302**

CERTIFICATION

I, James M. Berry, hereby certify that the electronic copy of *Initial Post-Trial Brief of Respondent Rambus Inc.* (Public) accompanying this certification is a true and correct copy of the paper original and that a paper copy with an original signature is being filed with the Secretary of the Commission on September 9, 2003 by other means.

DATED: September 9, 2003

James M. Berry

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